

LOUIE A. GARDELLA: JUST PASSING THROUGH

MY WORK IN NEVADA AGRICULTURE, AGRICULTURAL EXTENSION, AND WESTERN WATER RESOURCES

Interviewee: Louie A. Gardella

Interviewed: 1973

Published: 1975

Interviewer: Mary Ellen Glass

UNOHP Catalog #063

Description

Louie A. Gardella, closely identified with Nevada agriculture for more than forty years, is a native of Nevada, born in 1908. He proudly claims his birthplace as the Pyramid Lake Indian Reservation, while equally proudly reciting an Italian heritage.

Gardella, a descendant of Italian pioneer farmers, spent his early years on a ranch near Wadsworth, Nevada. He attended local schools and the University of Nevada, graduating with a degree in agriculture. A long career with the Agricultural Extension Service followed, with work in several Nevada counties.

Starting with 1934 in Lincoln County, Gardella became acquainted with the hard life and pioneering spirit that abounded in southern Nevada. There, he was instrumental in demonstrating the introduction of hybrid corn to the economically-depressed farming communities. He encouraged well and water enterprises there, and assisted with bringing a better life to the people through electrical power development. At the same time, he became deeply involved in helping young people through formation of 4-H Clubs.

Moving next to Lyon County, Gardella found a more advanced agricultural society. There, he performed some early experiments with pesticides and weed control, and watched the evolution of problems that led to abandonment of the use of various chemicals. Work on drainage of waterlogged acreage constituted one of Gardella's major accomplishments for the ranchers of Lyon County. Again, 4-H Clubs took a large portion of his time and influence, which he gave generously.

Leaving Lyon County, Gardella became the County Agent for Washoe County, at that time probably the most populous, urbanized county in the state. Water development, drainage, irrigation, and the changing needs of the agricultural population engaged his attention. His help with the clearing of the Truckee River reefs to lower the high water table east of Reno allowed the Reno airport and industrial areas more efficient use of land.

**LOUIE A. GARDELLA:
JUST PASSING THROUGH**

**LOUIE A. GARDELLA:
JUST PASSING THROUGH**
**MY WORK IN NEVADA AGRICULTURE, AGRICULTURAL EXTENSION,
AND WESTERN WATER RESOURCES**

An Oral History Conducted by Mary Ellen Glass

University of Nevada Oral History Program

Copyright 1975
University of Nevada Oral History Program
Mail Stop 0324
Reno, Nevada 89557
unohp@unr.edu
<http://www.unr.edu/oralhistory>

All rights reserved. Published 1975.
Printed in the United States of America

Publication Staff:
Director: Mary Ellen Glass

University of Nevada Oral History Program Use Policy

All UNOHP interviews are copyrighted materials. They may be downloaded and/or printed for personal reference and educational use, but not republished or sold. Under “fair use” standards, excerpts of up to 1000 words may be quoted for publication without UNOHP permission as long as the use is non-commercial and materials are properly cited. The citation should include the title of the work, the name of the person or people interviewed, the date of publication or production, and the fact that the work was published or produced by the University of Nevada Oral History Program (and collaborating institutions, when applicable). Requests for permission to quote for other publication, or to use any photos found within the transcripts, should be addressed to the UNOHP, Mail Stop 0324, University of Nevada, Reno, Reno, NV 89557-0324. Original recordings of most UNOHP interviews are available for research purposes upon request.

CONTENTS

Preface to the Digital Edition	ix
Introduction	xi
1. My Early Life and Education	1
College Years	
2. Agricultural Extension Work in Lincoln County, 1934-1943	27
Introduction to Lincoln County	
Flood Control, Water and Power Development	
Livestock	
Cropping Practices, Introduction of Hybrids	
Pest Control	
Outside Agencies	
Lincoln County Families and Society	
Wildlife	
Politics in Lincoln County	
4-H Club Work	
Wartime Changes	
3. Agricultural Extension Work in Lyon County, 1943-1954	69
Introduction to Lyon County	
Wartime Problems	
Water Development and Drainage	
Poultry, Livestock, and Milk Production	

Crops and Fertilizers	
Pest Control	
Transitions in Modern Agriculture	
4-H Club Work	
4. Agricultural Extension Work in Washoe County, 1954-1967	119
Introduction to Washoe County	
Water, Drainage, and Irrigation	
Indians in Agriculture	
Extension Service Society in Washoe County	
Graduate Studies Interim	
4-H Club Work	
5. Statewide Activities in Agriculture	145
Decline of the Livestock Industry	
Observations on the Taylor Grazing Act	
Range Improvement	
Cooperative Marketing of Ranch Products	
Milk Marketing	
Livestock Feeding and Implants	
Human Nutrition	
Weed Abatement or Control	
Insect Control	
The Farm Bureau	
Professional Organizations	
6. Summary of a Career in Agricultural Extension	171
7. Civic Affairs and Community Activities	191
The "Green Belt" in Washoe County	
Observation: Community Development	
8. My Post-Retirement Career and Activities	199
9. A Note on My Family	201
10. Summary and Conclusion	203
Original Index: For Reference Only	205

PREFACE TO THE DIGITAL EDITION

Established in 1964, the University of Nevada Oral History Program (UNOHP) explores the remembered past through rigorous oral history interviewing, creating a record for present and future researchers. The program's collection of primary source oral histories is an important body of information about significant events, people, places, and activities in twentieth and twenty-first century Nevada and the West.

The UNOHP wishes to make the information in its oral histories accessible to a broad range of patrons. To achieve this goal, its transcripts must speak with an intelligible voice. However, no type font contains symbols for physical gestures and vocal modulations which are integral parts of verbal communication. When human speech is represented in print, stripped of these signals, the result can be a morass of seemingly tangled syntax and incomplete sentences—totally verbatim transcripts sometimes verge on incoherence. Therefore, this transcript has been lightly edited.

While taking great pains not to alter meaning in any way, the editor may have removed false starts, redundancies, and the “uhs,” “ahs,” and other noises with which speech is often liberally sprinkled; compressed some passages which, in unaltered form, misrepresent the chronicler's meaning; and relocated some material to place information in its intended context. Laughter is represented with [laughter] at the end of a sentence in which it occurs, and ellipses are used to indicate that a statement has been interrupted or is incomplete...or that there is a pause for dramatic effect.

As with all of our oral histories, while we can vouch for the authenticity of the interviews in the UNOHP collection, we advise readers to keep in mind that these are remembered pasts, and we do not claim that the recollections are entirely free of error. We can state, however, that the transcripts accurately reflect the oral history recordings on which they were based. Accordingly, each transcript should be approached with the

same prudence that the intelligent reader exercises when consulting government records, newspaper accounts, diaries, and other sources of historical information. All statements made here constitute the remembrance or opinions of the individuals who were interviewed, and not the opinions of the UNOHP.

In order to standardize the design of all UNOHP transcripts for the online database, most have been reformatted, a process that was completed in 2012. This document may therefore differ in appearance and pagination from earlier printed versions. Rather than compile entirely new indexes for each volume, the UNOHP has made each transcript fully searchable electronically. If a previous version of this volume existed, its original index has been appended to this document for reference only. A link to the entire catalog can be found online at <http://oralhistory.unr.edu/>.

For more information on the UNOHP or any of its publications, please contact the University of Nevada Oral History Program at Mail Stop 0324, University of Nevada, Reno, NV, 89557-0324 or by calling 775/784-6932.

Alicia Barber
Director, UNOHP
July 2012

INTRODUCTION

Louie A. Gardella, closely identified with Nevada agriculture for more than forty years, is a native of the state, born in 1908. He proudly claims his birthplace as the Pyramid Lake Indian Reservation, while equally proudly reciting an Italian heritage.

Gardella, descendant of Italian pioneer farmers, spent his early years on a ranch near Wadsworth, Nevada. He attended local schools and the University of Nevada, graduating with a degree in agriculture. A long career with the Agricultural Extension Service followed, with work in several Nevada counties.

Starting in 1934 in Lincoln County, Gardella became acquainted with the hard life and pioneering spirit that abounded in southern Nevada. There, he was instrumental in demonstrating the values of scientific agriculture, including the introduction of hybrid corn, to the economically-depressed farming communities. He encouraged well and water enterprises there, and assisted with bringing a better life to the people through electrical power development. At the same

time, he became deeply involved in helping young people through formation of 4-H Clubs.

Moving next to Lyon County, Gardella found a more advanced agricultural society. There, he performed some early experiments with pesticides and weed control, and watched the evolution of problems that led to abandonment of use of various chemicals. Work on drainage of waterlogged acreages constituted one of Gardella's major accomplishments for the ranchers of Lyon County. Again, 4-H Clubs for the young people took a large portion of his time and influence, which he always gave generously.

Leaving Lyon County, Gardella became the County Agent for Washoe County, at the time probably the most populous county in the state and largely urban. There, he faced different problems, and found solutions for them. Water development, drainage, irrigation, and changing needs of the agricultural population engaged his attention. His help with the clearing of the Truckee River "reefs" to facilitate lowering

of the high water table east of Reno allowed the Reno airport and industrial areas more efficient use of land. Meanwhile, the 4-H Club members had the advantage of his tutelage in learning to mesh farm and city life.

When invited to participate in the Oral History Project, Louie Gardella accepted graciously. He was a cooperative, generous, and discreet chronicler of his life among Nevada's farm and ranch people through twelve recording sessions, all held in the Oral History office at the University of Nevada, Reno, Library between March and June, 1973. Mr. Gardella's review of the transcript of the interview resulted in no significant changes in either text or style. He has designated the volume as open for research.

The Oral History Project of the University of Nevada, Reno, Library preserves the past and the present for future research by tape recording the life histories of persons who have been important to the development of Nevada and the West. Resulting transcripts are deposited in the special Collections departments of the University Libraries at Reno and Las Vegas. Louie A. Gardella has generously donated the literary rights in his oral history to the University of Nevada.

Mary Ellen Glass
University of Nevada, Reno
July, 1975

MY EARLY LIFE AND EDUCATION

It's a little hard to begin. When one tries to recount the life experience and activities of parents and the general growing up process, and watching the development of western Nevada it's kind of hard to have a beginning, and I presume it's a little hard to have an ending. But to begin with, I was born in Wadsworth, Nevada on January the third, 1908. My parents were Guiseppe Gardella and Maria Gardella. I was born in a little house that still is being used in Wadsworth. My son and me dropped down there and took a picture of it about a couple of years ago. It was actually on the Indian reservation, so I've often kidded my youngsters about being a full-blooded Paiute Indian because I was born on an Indian reservation [laughing].

It was the early days. There was a physician in attendance when I was born, but it wasn't required that he record a birth certificate, so when I went to get a passport, I had quite a little job getting a birth certificate proving I was born. I have six sisters, two older than myself and four younger.

My father came here in 1889. I think it was about in March, if I can remember right. He left Genoa and of course came over, I presume on the steerage, and got on the train.

How he ever did it—he could not speak [English]—. I don't know why he came to Reno, but I presume it was because some of the neighbors had been here and had reported that this was the land of milk and honey. So [he] borrowed money from a neighbor there and bought a ticket and wound up in Reno.

One of the strange things, a coincidence happened when he got off the train in Reno. He was wonderin' where to go and he walked across the street and the first man he noticed was one of his neighbors from the town that he was born in So he hustled him over to a bar or hotel— they had boarding houses in those days; he stayed there for a while.

The first job he ever got that came up was a pick and shovel. It was working on the outlet of the Washoe Valley on the Steamboat Creek. He told about how conditions were rather tough. The boss would measure off three

shovel handles; you had to do your share no matter if it was hard or soft or rock and you had to move up in succession, otherwise you were canned at the end of the day. It was a kind of forced labor. I don't know what his wages were, but they must have not been very good.

It's a little interesting here to note the type of accommodations they had. They had a boarding house and the food was not too good, of course. He didn't like it because he wasn't too familiar with it. He told stories about the meat wagon coming by to bring meat once a week and there was no refrigeration; they just damped it out alongside the cook house in the shade. The flies, and so on and so forth! And about the second or third day, you could hardly eat it; you didn't hardly eat it. So they, of course, had plenty of starches, bread and potatoes, but the meat was a little tough to eat after the third day.

After that job was finished (I don't know how long it lasted but it didn't last too long), he went to work for another Italian rancher in the Pleasant area. I think it was right in the little valley, Pleasant Valley or Round Valley, for Ferrettos, I think was where he went to work, and worked for that summer.

In those days, it was customary for the workers to get paid only during the summer when there was work. Some of them went to work as cattle feeders or chore men and then sometimes they were paid and other times they just got their board and room, and then went to work again next spring. He tells about leaving and coming into town; there was, of course, no work in town. So he went to work for, I think it was, a Dr. Hogan who had a ranch, a piece of ground just east of Verdi. He was clearing rocks and boulders off the fields. Their big salary included a cabin with a stove and a cot, the salary was a total of fifty cents per day boarding themselves, and the men were provided horses and a stone boat.

A stone boat is a piece of steel in which you hook the horses to, and load these rocks onto it and then haul it over to the side of the field and you build rock fences. He said that wasn't so bad because he and the fellow that took the job, worked all winter, and when spring came they had no bills and they had saved ten dollars. So [laughing] it was better than staying in town and boarding in which they would have been in debt that much more for the board and room.

This was a kind of a customary operation. Many of the young immigrants found themselves continually in debt because they worked all summer to pay last winter's bill and this wasn't so good; they didn't get ahead very far.

But anyway, he stayed; he worked in the south of Reno for several ranchers there for until about 1895, I think it was. And then he and two partners, Mike Gardella and Joe Capurro, rented the ranch just east of Sparks where the present subdivisions are going on now, and stayed there two years I think it was—in 1895 and '96 and '97.

Then in 1897, they went broke. They just didn't make enough money. It was during the depression (there was quite a depression on then) and hay was very cheap and they just didn't make any money. So in '97, when spring came, why they went out and got jobs. But they had accumulated work tools and three or four horses and wagons and what-have-you, so that they did have that kind of a head start when they rented those out and went to work.

Then at the end of 1897 when they got together again, they were investigating the possibilities of buying some land and they heard of Wadsworth, which at that time was the division point for the Central Pacific Railroad. They went to Wadsworth and found a piece of ground, 120 acres that belonged

to a Mrs. [Julia] Fellnagle. That was about six miles north of Wadsworth on the Indian reservation.

Now this had problems. This was proved up land, it had a title to it, but it was obvious it was within the Indian reservation, totally within the Indian reservation. This happened because the Indian reservation was established in 1859, north of what is known as Dead Ox Canyon, which is about eight or ten miles north of Wadsworth. And then in 1874 it was extended south by a proclamation by, I think it was President Grant and it included the lands along both sides of the river, extending out to the bench lands.

In between 1859 and 1874 a number of—they call them squatters but they were actually settlers—homesteaded, settled on the river bottom between Wadsworth and Dead Ox Canyon. There's evidence of fences and irrigation structures even to this day. Some of them built homes but yet some of them never—. Apparently, they went in there too late, too close to 1874, and they never received a patent to their land. But this particular piece of land they had received a patent on 120 acres.

Apparently, some part of it had been cultivated for some time and yet for some reason they had abandoned it. They had had a ditch and a road in there, but it had been abandoned, mostly— When they went down there, it was in the wilds. There was brush that had grown, and trees, the ditch was filled, and it was a very poor road. So they agreed to buy the land for three hundred dollars from Mrs. Fellnagle and they moved down there in, I think it was February of 1898.

They left Reno with, I think it was a four-horse team and a wagon and what supplies and tools they had and drove to Wadsworth and found their way on to the ranch. It was cold and stormy, but they had to find

something so they dug into a bank; they actually dug into the bank of one of the little knolls there, close to where they later built the house, and covered it over. I guess they had a dirt floor and they had a cook stove and what have-you. And they managed to live there while they were getting started.

One of the first things they had to do, of course, was to dig a ditch and make a dam and get the water back flowing down to the ranch. So they devoted their time that spring to doing this. They told me they hired a surveyor to kind of lay the ditch line on it. He charged them twenty dollars for the job. He staked it roughly and then they used a level and a straight edge to carry the grade and they dug the ditch—he told me just the width of a pick, which is about three and a half feet—they dug it all by hand. So this is another thing, they dug most of it by hand. I guess in their spare time, why, they [laughing] cleared brush, cut trees, and fenced.

There had been some other settlers there. Some of the land that they occupied and used was actually in a way claimed by a Mr. Olinghouse, from which the town of Olinghouse is named. But they must have had some sort of an agreement that they could use that land because they didn't stay on the 120 acres they took. Actually, they didn't have very accurate information of where exactly the land was; it was surveyed and all, but they didn't know exactly, so wherever there was some land that they could utilize, they did.

So they went down there and cleared the brush and planted crops. When they had looked over Wadsworth it was a lively town. There was probably about 3,000 to 3,500 people. They'd figure that they would grow vegetables, potatoes and other vegetables, and peddle them in town. So although they got there very late, they actually were able to [plant] some crops, they had a crop by fall.

In order to get out of the rather unsatisfactory housing situation, they went to town (I think it was the Griswold store) and contracted to buy a carload of used lumber; I should say odd-sized lumber, two-by-fours etc. And they built a five-room board and batten house and were able to move in by the next winter; they were under cover. This was about—let's see this brings us up to about 1899 or thereabouts. All three of them were bachelors at the time. Mike Gardella was the first one that got married, and he brought his bride down to the ranch. She kind of acted as the cook, and so on and so forth. I don't know her history very well, but she came from the same general area in Italy, but I don't know how she got over here. I think she must have had some uncle or aunt or something that came here. And then the next one that got married was Joe Capurro. Mrs. Capurro, I think, was from Italy but again, I don't know how she got here. She was in New York I know, for a while, but I don't know how she got here or how he met her—they were married.

This left Dad. When he first came to Reno, it was characteristic of the young people to kind of gather together, and apparently he got to know a Mr. Tony Minetto who lived on Winter Street for years. Actually, Dad had known him in Italy, since Dad had some lands there. The Minettos were sawyers and they used to go through the area and saw lumber out of the logs and trees. So he knew him there, or knew of the family there, although they didn't live close; they were quite a little ways apart. And when he got over here, he met Mr. Minetto.

Mr. Minetto had some nieces; he had a brother, and the brother had daughters in Italy, and he kind of looked Dad over, I guess, and he said, "I got a wife for you." So a bargain was struck [laughing] whereby Dad furnished the fare and my mother was appraised of the

fact that she had found a husband. I think Dad sent a picture of himself (this was customary), and she sent a picture over here. I don't know how long this negotiations took place, but it must not have taken too long because she arrive here and they met.

She was twenty years old. She came through on the train and Dad got on the train at Wadsworth. I imagine it wasn't very hard to pick out a foreign girl riding in a train [laughing]. He picked her up and they came to Reno and he stayed over the weekend with the Minettos. I think he made one more trip to make the arrangements for the marriage, and so on and so forth, and the third week, why, they were married. And he took her home as a bride.

Going back a little bit, my father's [family] owned a little property in the little town of Nirone. I saw it when I went back there. I saw the area, I didn't go and view the old house in which he was born, across the creek, and the land that he was raised on. It looked like about twenty-five or thirty acres of ground, but it was almost straight up and down. There was about an acre or two and the rest was all terraced, mostly all terraced, except one acre right down close to the creek. So the financial condition must have not been too good.

My mother's history is about the same. She was born in a little town called Ulba, which is north and west of Genoa. And I don't know at what age, but fairly young, they moved to a suburb of Genoa, Santa Margarita, which is a seaport. She had training as a seamstress, she worked as a seamstress. She did go to what probably amounts to the sixth grade. My father didn't bother to go to school, so he could barely write his name and a few figures. My mother did have a little bit more education, but it was about the sixth grade, as I can estimate. So this brings us up to the point

where she came here. They were married and went on the ranch.

I think it was about 1902 when she got here. In 1905, the shops were moved from Wadsworth to Sparks and this dealt a very severe blow to Wadsworth. They could not make it on a small acreage like that, that there just wasn't enough living for the families. So the first one that sold out was Mike Gardella. He sold his share and moved into Sparks. He followed the shops into Sparks and set up a boarding house—bar and boarding house—there and made a success of that. And then, I think, it was in 1912 that Mr. Capurro sold his share to Dad. In that transaction, they estimated the value of the ranch was probably five thousand dollars. Dad paid him twenty-five hundred dollars for his share and bought his partner out, and he went into Wadsworth and bought a ranch. They had separated the partnerships there. We continued to live on the ranch. I was born in 1908.

At that time, there was quite a bit of mining at Olinghouse, they were building the SP branch railroad through the Indian reservation up to Susanville or Westwood. This was before the automobile so there was a lot of teaming and livestock activities going on in the community and Wadsworth [was] kind of a shipping point. [So Wadsworth] managed to survive, probably until about the 1930's. The final blow was when they moved the highway out of there about in the '60's.

Anyway, we lived I imagine what was a typical life of the early settlers for the time. They were practically self-supporting on the ranches. They raised their own vegetables and fruits and they had chickens and milked cows and [made] butter and cheese, and they grew the hogs and made hams and bacon and salami, and they slaughtered occasionally a beef. So they were pretty much self-supporting. They didn't have to have too

much cash. It was all hand labor and they did have to hire some help. You just couldn't make it on a small place like that at this time, but at that point in time, why, it was a satisfactory life for them. They didn't make an awful lot of money; it was a small operation. But they changed a little bit. As the sale for produce dropped off, they went into some dairying and then livestock; they eventually got into some livestock.

They sold the place in 1938 to Helen Marye Thomas who had come out here from the East. Her family had been very prominent in Virginia City; they had made a fortune. Her grandfather, I think, was an ambassador to Russia at one time. They wanted a kind of a hideout. She bought the ranch. When they sold the ranch my- family moved into Reno. So that's the account of the movement.

Some of my mother's sisters had about the same thing happen to them, There were other young fellows around and I think that her uncle, Tony Minetto, helped them get husbands in much the same way that Dad and Mother were brought together. In 1908, in October I think it was, my mother's mother died— and I—from what I gather I'm not sure exactly what happened there, but I think that my grandfather was an alcoholic—back in the old country. So there was no support for four younger (three sisters and one brother), so my father agreed to go after the four children that were left there. He went back to the old country, picked them up, and brought them here. By that time all the other sisters had been married they kind of distributed them and raised the family. And they all married and've done fairly well.

My family particularly was not so much organization oriented but it was more family oriented, so that many of our celebrations or activities centered around family activities. But there was several rather odd situations.

The early settlers, I guess they were lonesome and they, on Sundays especially, they drove from one ranch to the next. What I mean, they'd gather at one ranch, several families, and eat and drink and talk and visit. This was during the good weather, not during the winter. But this gave them an outlet for social activities. They got to do a little gossiping—they did this quite a bit. But it started to die out when they started to get cars—it just kind of made them independent or something or they were too busy or they went further or something, but as they motorized the custom disappeared. Not disappeared entirely, but it slackened. Of course, by that time they were established and probably had other outlets to meet their social needs.

Of course, Italians are known for their celebrations, wedding celebrations. So as the youngsters started to grow up (and this was not until actually about 1930, and we were a large family), it [these celebrations] generally happened here in Reno. Weddings were generally here in Reno. Also locally we went to quite a few weddings, I can remember, as a youngster, going to the neighbors' weddings, daughters; and sons' weddings. There was always a big feed. Sometimes they had music, generally a squeeze box, and they danced, and I guess exchanged gifts, and all this kind of thing that is generally customary. Actually the custom hasn't changed; it's refined but it hasn't changed very much yet. You go to wedding dinners or to receptions, church weddings are nice—it's pretty much the same thing. It's just refined a little bit and they use different methods of getting there, and they use a little different custom, but it's essentially the same thing. That's not uncommon. And my family, as I said, was not very much organization oriented, they have just been naturally not organization oriented, or it may have been distance, and inaccessibility

of those organizations—that may have been the reason it didn't join organizations.

My family's not very religious. We did go to church. And as a youngster I remember when I, naturally being Italian, they all assumed that I was Catholic, and Mother was Catholic. And there was a kind little soul there in Wadsworth, May. Ferretto—she was one of the Ceresolas and she was a very kind soul and she used to have us go to catechism. I did go to catechism, did take catechism and the priest would come out and, you know, give us the Catholic instructions. I think that Mother took me up to Sparks and I was baptized when I was about seven or eight years old, by the priest in Sparks. And I did go to confession once. And I haven't been back to confession since and I've gone to many churches, never on a particular religion. After I married, and after I grew up, I kind of did go and took my children and they were baptized in the Episcopal church. But I never really joined a church. So I have gone to the Mormon church and the Seventh Day Adventist and I've gone to a lot of them—the whole works, but I've just gone as a visitor rather than as a church member.

My family, they're mostly—not all of them are, but mostly—Catholics. My cousins are; some of them have become quite religious and they're quite Catholic, going to a Catholic church. My father was anti-religion, anti-Catholic particularly; he had no use for the priests. I think that goes back to his early life in those little towns in Italy, where the priests dominated all the thinking and all the activities. He was very displeased with the despotic attitude of the Catholic priests, and the influence that the Catholic priest exerted on the community. I think that somehow this rubbed off on me.

One of his partners in Wadsworth, little Joe Capurro, he was one of the kindest little

men that it's ever been my pleasure to know in my lifetime. I can remember, I must not have been over four or five years old or probably even less, I don't know. He used to come in from work in the evenings and wait for supper. I was ready for bed, Mother had already fed me and he'd pick me up. There was an old rocking chair, and he'd pick me up in his lap and rock me, and he had a little song that was made up entirely of cuss words, cussing the Catholic church, and I went to sleep with this [laughing]. So when I hear the youngsters trying to use a shock effect—he didn't use vulgarity, he just cussed, he didn't use vulgarity. As I said, he was one of the kindest and finest and soft-hearted men that I've seen. He just cussed the priests and the church in general. And when I hear youngsters trying to identify, or try to—I don't know what they're trying to do, using vulgarity or cuss words I say, "What are you trying to do? I learnt those words when I was a four-year-old." You're not shocking me, I could hold my own with any mule skinner that I want to, but when you reach that point when you have to use vulgarity and cuss words to express a thought, that's not very good English or grammar" [laughing].

That rocking chair was one of those rocking chairs that they hang from kind of a platform. My sister Mae [had it]; she died about four or five years ago. I don't know where it's at; one of my nieces might have it, I think one of my nieces has it. But oh, that chair must be eighty or ninety years old. That was what I was rocked on.

So if you want to do any cussing, why, just go on ahead and I can follow you [laughing]. [Would I care to recite that?] Oh, I couldn't. I could, but I just couldn't cuss the Pope and the priests he called "the dirty sons of bitches," which to me was just old language, but he had a little sing-song and I'd go to sleep on

it. As I say there was nothing wrong with the man—he was a fine man.

I thought we'd go back [to tell] about the "birds of passage," that is, the immigrants [why] came over here and stuck around for only a short period of time and went back home for various reasons. There was quite a few of these. It happened for two or three reasons. Some of those that came over were already married and had a family in the old country. They made a little money and went back. Others came over here single and they couldn't find mates or couldn't get married. They thought, well, I'll go back and marry one of the old country girls, and come back. And some of them never made it back. Then there was others that, I guess, were just kind of wanderers. They came over and made a little money and thought they'd go back and splurge a little bit, and then they ran out of money and they came back, and made several trips—they never really put down roots in this country. They didn't purchase any property here, most of 'em didn't purchase any property here, they were just laborers mostly. And a lot of them disappeared from the scene, from the American scene, anyway.

Now, back to our early life on the ranch there. I was perfectly happy. I didn't have very many playmates except my sisters and the families of my Mother. These families, whenever they got into troubles, why, they came down to the ranch. There was always somebody down there visiting or staying and we took them in. We shared a lot in those days. They came in and lived down there with us. So I had cousins and others but I was the only boy in my family, and our closest neighbors were four miles away. Transportation wasn't what it is now, so I had to get along with my sisters [laughing]. And there was hunting and fishing.

Incidentally, one of the reasons I think that they were able to survive there, was that there was game and fish. Dad tells about the fishing. This was when the Pyramid Lake cutthroat trout were plentiful. They made their first appearance generally, oh, in about the first of November when high waters began to come on the river. He tells about grabbing his fishpole and going down to the river, and with two or three casts, catching a fish and dressing it and bringing it home for breakfast for food. And there were ducks on the river and quail. Laws weren't too restrictive on hunting and fishing so this furnished part of the food supply. This helped quite a bit in surviving. It was a matter of survival.

My two oldest sisters started school in Olinghouse; they lived with an aunt. And this was a matter of driving, I think it was about eight or nine miles. They stayed over the week, and then on weekends they came home. And this, of course, was done all with horse and buggy. Then when my aunt moved from Olinghouse to Wadsworth why, they moved the schools. They went to Wadsworth. I started school in Wadsworth.

When I started in school in Wadsworth, I could not speak English, except a few words. They didn't send me till I was six and a half years old. I was born in January, so they didn't send me until the next fall. As I recall it, I went into school, and it was a two-teacher school with eight grades. There was no high school there. So they didn't have much time for a youngster that couldn't speak English, so I was given some crayons and spare paper and what-have-you and told to amuse myself the best I could and learn the English language. So I went one whole year just to learn how to speak English. I was a pretty good-sized youngster. I couldn't speak English, but knew how to rassle and fight my way around so I [laughing] when all through the first grade,

then I took on the second grade. Along about mid-year, why, I met my match. There was a youngster there—the big boys, I think they kind of like to watch me either fight or rassle and they were matching me and I got over-matched, and that took care of my fighting days [laughing]. The next year, I of course went into the first grade and I finished school in Wadsworth.

There is one little incident there. I think that I should pay a little compliment, actually, to a Mrs. Mamie H. Kohler, who was my teacher when I entered the fifth grade. She was, I think, a graduate of the normal school in Virginia City. She came from Virginia City, she was of German parentage and, as I could gather, I don't think she had too high an opinion of Italians, because she was a little bit rough on me (of course, she was rough on all the class). But she figured that we hadn't completed our work in the fifth grade so she held the whole class back. So we repeated the fifth grade. And this was the days corporal punishment was not looked down upon, so I can remember getting my ears cuffed a few times for not having work prepared. But she was a good teacher. I did learn a lot from her. I probably learned more from her than I learned from any other teacher. She finally left there and I went into the seventh and eighth grade, and I finished the eighth grade there.

Let's see, we decided that we'd probably discuss the early schooling and school situation. We lived six miles from school and we had to drive back and forth with a horse and buggy, well, actually a horse and cart. We had a little horse by the name of Tommy, a little bay horse that strayed out to the ranch. He had distemper and he pretty near died there, and gave it to all the rest of the horses. But anyhow, he turned out to be quite a little horse. He was a very useful little horse; we rode him and drove him and worked him, and

if there's a horse heaven I know that Tommy's in it because he served his time [laughing]. He was an ornery little cuss in some ways but he was a very good horse.

But anyway, we would leave home in the morning about ten minutes to eight. It took us about an hour to drive to school. Dad bought a house in town, and it had a corral, and we'd put [Tommy] in the corral and feed and water him, and at night we'd harness him and go and get the mail and go home. And this was OK except for the months of [winter]. We sometimes made it till Christmas; by that time why, you had to be to school by nine o'clock and you didn't get out until four, and it was getting dark. In those days, we didn't have daylight saving, so we'd get home after dark. January was particularly bad, cold winter. I can remember getting frozen feet, and chilblains. We used to put bricks and rocks in the oven and then wrap them in burlap and put your feet on them. They lasted about ten minutes but it was a little help, to get your feet warm. Or you wore overshoes or did something, but you still got chilblains. I can remember sitting in the room when your feet get to itching and I just had to take my shoes off and rub my feet because my feet have been frozen and got chilblains.

And there no hot lunch program in those days, so you made a cold sandwich and you ate it in school. This teacher I was telling you about, Mrs. Kohler, she was a little mean in some ways. She didn't want any children in the classroom when she wasn't there, so she would ask us to go out. We went out and she locked the room and we ate our lunch out on the porch. Summer and winter and anytime. I think I remember eating lunch, the snow falling, and outside; it was a little bit rough. But we made it through [laughing].

We had books of course, but we had no references. I often laugh about it. The

reference books generally consisted of one of those big Webster, [Noah] Webster dictionaries; it stood up there and this was about your references. I think they had an old encyclopedia there, set of old encyclopedias. That was a library. It was learn from either the teacher, what she told you, or you read it out of the book, or do the best you could.

It was a two-room school with two teachers, eight grades, so the first four grades were mixed and the last four grades were mixed, too. It was quite a commotion. There was a total about forty to fifty, forty-five children in the two rooms. There was recitations and noise and movement. I look back on it now, and there are some of those youngsters that were fidgety and could hardly sit still. I can understand it now, but I couldn't understand it then. I got along all right, but there were some of 'em that must have had quite a problem, because we look at youngsters, hyperactive youngsters, I guess they must have had quite a little trouble. The first year I went, when I was six and a half years old and I spoke very little English, so they let me sit in a desk there to let me learn English for one year. So I didn't get started in the first grade 'till I was seven and a half years old. I managed to get by in pretty good shape. I always had trouble with reading; I think it's an inherited characteristic. Mrs. Kohler was always trying—I thought she was real mean then; she was trying to help me. She used to send me out in the coal room (that was unheated, incidentally), put my coat on and went out there and read out loud. To this day, I'm not a good reader. But I did learn to read and to write. I did get through school.

We had another, I think, an outstanding teaching. It was K. O. Knudsen, who came to Wadsworth, I think it was in 1922. He had been teaching a year or two in western Nevada and came to Wadsworth. He was a

very outstanding teacher. He later went to Caliente and became principal of the school down in Las Vegas and there's a school named for him down there. He's still alive. He's going blind now, but he's a very wonderful man.

I think that Wadsworth was one of the first places that we integrated, when I first started schooling. The Indian youngsters went to school in a little schoolhouse, at Indian town, up in the north of town. And the whites, of course, went into the school there at Wadsworth, a brick school building. The Bureau of Indian Affairs authorities came down; I guess they discussed it with Mr. Knudsen about moving the Indian youngsters down with the whites. This was arranged and, if I remember right, they paid a sum total of fifty cents per youngster for each day of attendance at the white schools. There was no problem of integrating. We knew the Indian youngsters, we were familiar with Indians, so they were not treated any differently than whites. Except for occasionally, a little temper flare would be, then we would fight between an Indian youngster and a white youngster. But that happened between the Indian youngsters and the white youngsters, too. So it was not a racial situation, it was just a situation. [Knudsen] was very good at this. He knew that the Indian youngsters might go into athletics. so we used to play what baseball, and soccer, and what little we could. We had no equipment or good facilities, but we played. And this was very good.

When we graduated from eighth grade—I'm a little proud of this—when I graduated from the eighth grade it was the first year that they gave the so-called "intelligence" tests, and Mr. Burr, who was the deputy superintendent of western Nevada, came and gave those tests to the Wadsworth schools. And to start us out, this is kind of a little incident (laughing), this is always amusing to me—sometimes sounds

a little embarrassing. One of the questions to start us out was, "What is marmalade made out of?" and it had a selection of answers, and it was I think they had eggs, oranges, and something else. And I didn't know what marmalade was so I put down "eggs." And when he left to correct the papers, he said, "Marmalade made of eggs," and he really laughed and made fun of it. I was sitting there and it was very embarrassing to me because I knew that that was my answer. But I had the last laugh on him anyhow. Later when he corrected the papers, I happened to have scored the highest in the school. And not only that, but when he sent out the results of the five western counties in the country schools, my name was on the honor list; he had picked seven, and I was number six of the seven so [laughing] I kind of feel proud of that. But it was a very embarrassing moment to sit there and listen to a so-called educated man. I never forgave him for that, really, making fun of a youngster. It really felt embarrassing, because I didn't know what marmalade was. So this was one of those little incidents you run into; it's rather odd, and you remember it throughout your life, I guess. [A little bit about the studies], well, we had McCuffey's reader [laughing]. I don't particularly remember what it was, but I never had any trouble with school; I always liked school. So it didn't bother me. I had trouble reading, but still liked it. Math was fairly easy for me. We did a lot of recitations in those days, poems. I liked that. I learned a little bit of poetry and I still kind of like to read poetry. Strange as it may seem, I've never used it and I'm not poetically inclined, but I just kind of like to read it once in awhile. There's one [laughing] again, going back to Mrs. Kohler. She insisted that we learn something about music. She was not a musician herself, but we had to read music. And I couldn't; that was one that was pretty

hard for me. But we had to learn the scale and we could go through and read music, Whether we didn't know a high C from low C, we still had to read music.

Of all the high lights of the school year, I guess was the Christmas program that they always put on, the school's mothers' clubs. And you know, you put it on, and the Christmas tree, and they have the stockings, you know, for youngsters filled with, if I remember right, oranges and peanuts and hardtack candy. This was a big event. And they had generally a dance afterwards—the program, you know, that local people [did].

There was another little incident, going back to K. O. Knudsen, he played the mouth harmonica a little bit, so on Friday afternoons (I guess he felt this was recreation or something), he'd line us up and we'd run the Virginia Reel. We'd dance the Virginia Reel [laughing]; big ones and little ones danced it, and we mixed up the whites and the Indians and we had a fine time. And it was a lot of fun. So there was this, and we'd look forward to it, and he could play the harmonica, so this was our music. I guess everybody had fun.

Speaking of integration again, this friend, Mr. Evans, teases me; he moved to Wadsworth. And he had some children who came to school. The way he tells it is that after about a week, he asked his daughter how she's getting along in school. And she said, "Just fine," and he asked her if she liked the kids. Oh, she was getting along fine with the kids, but she would like to have a little explanation. She said, "I know there's a lot of American kids there," but then she said, "And there's a lot of Indian kids there," but she says, "What are these Italians? Are they half Indians and half American?" [laughing]

So he was actually teasing me, but it kind of illustrated that that was an integrated school. It was an integrated school; it was

not only white ethnic groups but the Indians were in there as well. And this is where I learned something about Indians, and I like them. Mr. Knudsen rated them equal to the intelligence and ability of the whites and to my recollection they were. There were some bright ones and some dumb ones, same way there is among whites, some learned rapidly some didn't learn rapidly, but they were just the same as the whites. There was no other distinction. I don't know, their standards of living, I guess, were somewhat lower.

We did change a little bit in 1918. Henry Ford came through with the Ford cars. My dad bought one, one of the first ones with the self starters. And the touring car with the side curtains, the isinglass side curtains. That reduced the time from going to school. I remember many mornings that we had to go out, and couldn't start it and poured in the hot water. We had a garage, a good type garage and it was too cold. You jacked up the hind wheels and poured hot water into the radiator and you poured hot water on the carburetor and the manifold and then you cranked and got kicked with the crank and what-have-you. And getting stuck in the snow and mud—running out of gas many times. Nobody paid very much attention to us, and we had to do our thing ourselves, and sometimes we didn't pour enough gas into the car to get us to school and back, so we got stuck out on the road. In those days, [not] much traveling on a dirt road, and there was no traffic; you just walked home and got a horse and came back with gasoline and so that you could go the next morning. But this is our life. And I can remember how the isinglass on the sides—those damn curtains—first of all those curtains didn't fit very good, and then the isinglass would break. The cold wind and the snow coming in was just a little bit cold. 'Course, you had "longhandles" on, and you

had wool socks and heavy clothing and you wore one or two coats and threw on blankets and what-have-you, so you were plenty well clothed, but it was still damn cold. And there was no heaters in those days in cars. So I don't know how little kids—I can remember my little sisters—I was small at one time too, but I don't know how they stood it, but I guess we managed to make it. We all grew up.

Had to learn how to drive. I learned how to drive when I think I was thirteen years old, twelve or thirteen years old. Didn't have any license, didn't have any driver's license in those days, you just got in and you drove. Fortunately, you didn't have any too bad of wrecks. You were put out on your own, you just had to do it. [There] wasn't very much traffic, and it wasn't very fast, and if you ran out in the brush it didn't matter very much, as long as you could get out of the sand and back on the road, you made it all right. But it was fun. I think that pretty well covers the instances in school there.

I finished [the eighth grade] in 1924, and there was no high school. The closest high school was Sparks and there was no way of transportation, so they organized one for first year in high school. They hired a teacher to teach first year high school and I went that one year to Wadsworth. There wasn't enough students there, so we moved over to Fernley next year.

For the last three years I went to Fernley. And Fernley had had an up and down history in establishing high school. I think if I remember right, a Mr. Johnston from Yerington came—he was principal. He was a very fine man. They hired two other teachers in high school and I think there was about twenty to twenty-five of us in high school, about half from Wadsworth and half from Fernley. Again going back to grammar school. Oh, and during January, sometimes

in January and February, sometimes even December, we lived with my aunt in Wadsworth. When she left there, we lived in the house—I had an older sister that kind of did the cooking, and the rest of us lived there. There was three or four of us, generally. We had some cousins that stayed with us; there was four or five of us that lived in this house. It really would be an odd situation now, because there was nobody older than about fourteen, fifteen or sixteen and we had to do it ourselves. Either Dad drove us to school Monday morning and drop in the supplies and goods and what-have-you, or we drove the buggy or the cart. We didn't keep the horse there, we just—I would go to get the mail. and I would leave, the collar on him and tie the mail to the collar and then take him out of town and slap him on the rump and let him go home. And then they'd come up and pick us up Fridays and go home. So the busing wasn't—it wasn't exactly the best kind of busing [laughing]. But if you wanted to go to school, that's what you had to do. It was either walk or ride or drive a horse. But this was not uncommon. Many other youngsters did that. We were the ones that went the farthest, but—.

We did do some things at Fernley that were first, I think. When I went to Fernley, that was in Lyon County, and we lived in Washoe County so we—the school district—needed money to [care for] extra students. So with the help of a teacher, we went to our assemblyman. I think they passed the law which permitted one county to pay for schooling from another county, on a daily basis. We lobbied for that. That was my first political experience, we helped lobby for that. I think it was Mr. McCulloch, Frank [W.] McCulloch from Lyon County and I think [Neeley] from Washoe County, who were assemblymen.

Oh, to make money when I was a youngster we used to trap coyote and skunk and mink and bobcat and muskrat, this was quite a—youngsters, you know, we made a few dollars. Coyotes were worth all the way from five to twenty dollars a hide, and mink were worth four or five dollars—I got as high as sixteen dollars for one—and I got as high as twenty dollars for coyotes, a big coyote, bobcats and badgers and what-have-you. This was quite a little source of income. My folks never trapped but the youngsters, all the youngsters, did a little trapping. This, we did it generally in the fall. And then the professional trappers would come along in December and January and they cleaned up everything. They were too good for us, but we used to get them a little bit early, get a few of 'em. We made ourselves fifty, sixty, a hundred dollars, sometimes hundred and fifty dollars, so this is spending money. Had to have it. There just wasn't—.

[Do I remember the rabies epidemic?] Well, yes, I remember seeing rabid livestock, once. It was a neighbor's steer, young steer or heifer—I don't know, it was a young animal, anyhow. But there was quite a rabies scare, I never did see any rabies coyotes but they were in the area. And we were warned on livestock. There was quite a number of cattle and sheep reported that did get rabies; they were bitten and I did see one. This happened about oh, if I can recall now, about 1917 or '18 thereabouts. I think it was about 1917-18 [there was a big epidemic all over western Nevada]. All over the western United States, but western Nevada was bad. Quite a few cattle were lost. I don't know how it cleared up, but I guess the coyote died out, and skunks I guess carried it also. I guess there was a big loss of wild animals. There had to be to stop it. Of course they put on a poison campaign and put on a trapping campaign and shot and so on and so forth, trying to reduce the numbers.

I can remember one little incident that I remember about, mentioning coyotes and rabies. I was just a little fellow and Dad was [with] the rest of the family—I don't know how many of us—going from home and going to town. It was in the morning I guess, about nine or ten o'clock, or maybe it was earlier than that, I don't know. We were going up the road coming out from the ranch and I was looking out and there was five coyotes that were kind of following us, you know. They were in the pack and they were off on the hillside, and they kept trotting along, even with us, you know. And I must have been five or six years old (I don't know how old I was), but I was really scared because here was five coyotes. They were kind of on a skyline, you know, just trotting along. But you'd see them all the time. 'Course there's a lot of them now, too. You'd go out hunting this year and see a lot of them. But that's really—it really kind of seemed to bother me a little bit, I never have been bothered since. And this was quite a sight for me at that young age. I remember coyotes coming in and killing chickens, killing lambs, trying to shoot 'em and trying to get 'em.

Two incidents. I was still a youngster. (This was another odd thing, I don't know why some of us weren't killed.) Dad's gun was always in the corner and it was always loaded. It was an automatic gun and that was it. All you have to do is pull the safety off, and it shot. But it was always loaded. The dog (we had a couple of dogs), the dog made a lot of noise one night. So Dad got up, and he could see that the dog and the coyote were sparring, the dog was backing up towards the house, and the coyote's coming after him, the dog backing away. Dad got his gun, stepped out the door, opened the screen door, and shot the coyote right from the door. And another time the same dog was out rassing with a

coyote out in the horse corral. There was a pond there, where the ditch was, quite a little pond and we had ducks. And apparently the young coyote come in there and was trying to get the ducks, they quacked, and the dog went out and cornered him, had him cornered and Dad called the dog, the dog stepped aside and he shot the coyote in the corral.

Mink used to come up close to the house. I have another incident. In the summer or late fall young mink used to come. We had the slough kind of up close to the house. Chickens used to run out in the alfalfa field. They were always gettin' 'em and you'd hear them squawkin' and you'd say minks got the chickens, see. You'd run down and scare the mink off. Well, we had a .22. The chickens started a squawkin' and I ran down and it was in the alfalfa and the mink had the chicken by the head. She was squawkin' and jumpin' and he didn't see me, and I had heavy shoes on and I kicked this chicken over and I put my foot on it. So he let her loose and I can still see him there trying to bite my shoes, you know. So my sister came down with a .22. So then we had a problem, I'm standin' on the mink and how we're going to kill him [laughing] without—I guess we could have tromped him to death [laughing]. So she stepped on him, on his head, then I took the .22 and put it down between our feet and shot him.

Oh, I don't know why I'm telling you these things. I tell my kids some of these things—they want to know, the old days, what did you do in the old days? [Laughing] Wasn't so old, and wasn't so long ago.

They talk about predators, and there's a lot of hawks. I haven't shot a hawk in twenty-five years, I guess, and I just won't shoot one anymore because I recognize their values. But in those days it was a matter of protection. Or protecting yourself. We had pigeons and chickens. That was a wild area, and the hawks

would come by and pick up a chicken, the young ones generally. They picked up the young ones or drop a pigeon; they could drop 'em. The big red-tail hawks didn't bother very much; they occasionally came. But it was those little medium-sized ones, (what do you call them) Cooper's hawk, and two or three other ones that came in there. They'd pick up chickens, so the gun had to be pretty ready. They generally came by a certain time. You kind of watched them all, and if he came by, you let him have one, got rid of 'em .

There used to be a lot of owls down there. And the owls would nest in the down along the river in the big trees. In winter, I guess they ran short of food so they came up in the pigeon loft, where there's some trees there. They'd come up and they'd hoot awhile and then they'd get down and they'd drag the pigeons out and eat the pigeons. So when you heard them outside so you'd grab the gun and go out. You couldn't see 'em , except in kind of a moon light nights. They'd stand out, we'd shoot 'em . Now it's "ag' in the law," and so on and so forth, but then it was just a matter of protection.

Let's see what do we go on next? Derby is a little settlement that is gone now. But it's just about twenty miles east of Reno or Sparks, about seven miles from Wadsworth. This came into being actually because it was a construction camp during the construction of the so-called Derby Canal, the Newlands Project canal and the construction of the so-called Derby Dam. And it was probably one of the roughest camps—very rough—I don't remember it in the early days, but it started, I think about 1905 or thereabouts, when they started the construction there. It was all construction with horses and mules and shovels mostly, and so there was a lot of men, construction men and there was a lot of mule skimmers, and there was a very rough element.

I myself remember just a few houses with a general store, and we used to go there to buy a certain groceries, for example, the bread flour. In those' days, we bought the supply of flour in the fall and we used to go up there with a buckboard and Dad would load on, oh, generally a half a ton or a ton, three-quarters of a ton, of flour and a couple hundred pounds—two or three hundred pounds—of sugar and the baking soda—this kind of thing. We always got them a little bit cheaper if we paid cash and it was a little cheaper.

Now, I don't know this for a fact; they tell me there were six or seven saloons there and all the accompanying riff-raff that collected in that kind of a—they weren't riff-raff they were just rough men and rough women. They were human beings, but they were a little bit on the rough side and they were diamonds; I don't know if they were diamonds but they were in the rough anyhow [laughing]. They were rough. They had a reputation of, if you went into town, you just didn't show your pocketbook or show that you have any money, otherwise you would be mugged. There was supposedly quite a few killings and fights and all this kind of thing in that town, but it disappeared after, oh, I don't know, after the double divided highway went through it disappeared entirely.

In the process, it brought in a lot of characters, quite a few characters; in my early life I remember quite a few odd characters. There was one of them named Scotty Louver, for example. He was a trapper, and he lived over on what is now the Cantlon ranch on the other side there. And he used to trap coyote in winter, and shoot mustangs for the ranchers and skin mustangs, and drank good hard liquor. He was a pretty rough character. He was really one of the—well, I guess in the early days they called them mountain men. He trapped and he shot mustangs and skinned

horses and he was one of the old breed. I think he came in there about that time. And then there was another one—I think his name was Shaffer—he came in at that time, too. He was a miner. He was kind of an odd character. He went into bootlegging.

Oh, I didn't mention bootlegging. I remember bootlegging days. [Shaffer] made liquor. And there is an odd situation. This was during Prohibition. My partner and I caught a ride to Wadsworth, and we were waiting to go home, get a ride home. We were standing in front of the garage, and here he comes—I think his name was Shaffer—but he was going up the road. This was after the highway was there, but it was just a two-lane highway. And he was driving in a Ford with a top on it, and just out of Wadsworth there he lost control, and he went over on the right hand side, and hit an upright that marked the culvert or something. He kind of ran over it and he come to a little bit and jerked his wheels sharply to the right and then he was going off on the other side and he jerked them back to the left and threw both front tires. This was the old clincher style. He was going very slow, he threw both front tires, and the rings naturally caught on the oil and the car tipped over kind of on the front. He went over on the left front side and he went completely over and came up on its wheels. Of course, we were standing there several hundred feet away. And the top was pushed down. Oh, it was one of those little pickups, one of the first little pickups. The top was pushed down and we couldn't see him, and all of a sudden the top moved up and then dropped down and we assumed he was dead. So we ran over there and pulled him out from the car: "Are you hurt?" And he stood up, and the only thing that he had on him was a little bit of a skinning on his left small finger. That was the only damage we could tell.

But the odd thing that I was telling you about—he was a miner as I said, but he had case of dynamite sitting in the back of his pickup along with the [laughing] a box of caps— five hundred pound caps—that you know, ordinarily, a little jar will set them off. And the dynamite and the caps were all scattered all over the highway and we had to pick them up before somebody ran over them and blew them up.

And then the other odd thing was that sitting on the front seat next to him were two gallons of moonshine. And it was just sitting in a box and neither one of them had broken [laughing] so we rolled his car back out of the highway and [laughing] gathered up his dynamite. He was a friend of the garage man there and he didn't even swipe his liquor, so help me God; he didn't figure it was very good [laughing]. So he took his liquor inside and I guess the garage man laid him down inside and let him sleep it off. So there were some funny things that happened here in my lifetime.

[Laughing] Of course, during the Prohibition, Dad really never went into bootlegging. We did make wine, you got permission to make two hundred gallons of wine. So it was customary in that area, Wadsworth, and it was customary all over, they would go in and buy a carload of grapes and then they'd divide them amongst themselves. They had vats and they crushed them and made wine. I had an uncle who was a millwright, and he made a crusher and so you put rollers on it and crush it. And he made a press which was made of timber. He used a jack on it. It was on the ranch and actually, Dad moved it in to Reno. He just hated to get rid of it. Finally it was thrown out in the dumps. And I'm just very sorry that' that was ever—I just didn't realize its value; otherwise I would have turned it over to a museum

because that was quite a piece of equipment. They all used it, you see. It was handmade. We had a lot of handmade tools, that came down—we had planes—and I don't know where those things came from. I don't know where they are, they just disappeared—tools, blacksmith tools and all that, we had a lot of those. And they would have made quite a display. I'm not a collector; this is why I haven't got any. I'm not a collector. But they should have been turned over to a museum or something. These were pioneer tools that were used in repair of equipment and what-have-you. Odd pincers and tongs and what-have-you that they used in mining camps. I don't know where they got them. They got them in mining camps. I don't know where they got them. Some of them were handmade.

When Prohibition came in, it changed the habits, as we know, of the American people, it was made the liquor hard to get so they were bound on getting it. The situation was then that when the supply ran out, why, somebody had to make it. So they created many amateur chemists that became professionals and [laughing] the chemistry was fermenting whatever they had—prunes, raisins, corn, and sugar, water, and then distilling it into liquor. And this was common, I guess common, throughout the United States. But I saw it here, and I saw stills.

My father was not in the bootleg business, but he did make, as I mentioned a little while ago, he did make wine. He did not sell wine but he gave a lot of it away. It was kind of an odd situation. He always insisted that our two meals a day, there was always wine on the table. And it was available for anybody. Going back to the Indians, we worked Indians on the ranch. It was against the law to give liquor to Indians in those days, but Dad said, "If they're eating at my table and I have wine, they will drink wine," and nobody ever bothered us.

So they enjoyed it, I guess, 'cause they drank it. It was available to them. Strangers would come by and they were given wine.

In a way it's really bad, because I could have probably been a rich man, if Dad had gone into bootlegging like he could have [laughing]. I was spared that situation. But there were many, many people that I knew, friends that I knew, that did go into it. Some of them got thrown into jail. They kind of laughed about it, it was a crime, but they didn't look at it as a crime. And this is kind of an unfortunate situation, where they kind of—it often is compared to our present drug problem, but it was an entirely different situation, I think. When you look at the difference between drugs and alcohol, they call alcohol a drug and it is in a way, but it actually is a food. And it doesn't blow your mind permanently, unless you become an alcoholic. But it was an occasion of using it on all celebrations. To me, I drank some of the liquor and I drank some of the beer. That was made homemade—. Oh, we made homemade brew, too. It wasn't so good as you can buy it now, but it was fine in those days.

Oh, one of the celebrations when I grew up was Saturday night dances. And this was in Fernley and Wadsworth—. And this was a *big* event, and the way I look at it now, it was really a wonderful institution. Because men, women, and children, everybody went. You had the chaperones, or the older ladies looking on, you know, looking over their glasses, and the young folks dancin'. Everybody managed to get a—this was during Prohibition; you always had either a bottle of wine or beer or liquor, whatever it was, and you hid it out behind the brush or in the car or you did something and in between dances why this was a, [whispers] "Come on out and have a drink:" you know. So this was part of the entertainment for the evening. Once in

a while, somebody would get a little bit too much liquor and there was a fight or two, but it was not personal, it was just a little excitement. Most of the time, nobody was hurt much. But this was part of the entertainment. My youngest son is working at Omega House, and he kind of tries to equate it with the present drug situation, but it was not. As I look at it, it was not in that same category at all. 'Cause the next morning you might have a headache, but you could still get up and go to work. And you didn't change your habits, or didn't—well, when you're under the influence of liquor you generally lay down and went to sleep and when you slept it off, you're in pretty good shape; the only thing is a headache [laughing].

[Weren't the Italians hassled a lot by the Prohibition agents?] Oh, I don't know see that we were hassled any more than the rest of 'em, except that there were more of them in it [laughing]. They were not only in the manufacturing they were in the sale, so on and so forth. It just happened to be that they were the suppliers of the product that was in demand. Now, if there probably hadn't been as many of them, somebody else would have done supplying, but they just happened to be in this particular area, they just happened to be suppliers of the required demand. Quite a few of 'em spent a little time in jail and there was fortunes made and passed on. It's all legitimate now. There was some question. As I say my family did not engage in that activity. Dad was very straitlaced about that—he drank wine and he made wine but not for money. He just said, "No, I don't want to get mixed up in that." He had no desire to be mixed up in it. He did furnish a little for his neighbors, or for his friends but that was—.

[Did I ever see any raids?] No. I never saw raids, but I saw stills. When I worked down in Lincoln County, I went down what they call the Meadow Valley Wash (I used to

go hunting down there for quail), and I ran into three or four places where they had dug into the mountain—had stills—the barrels were there yet, and the whole thing was there. Incidentally, the Rainbow Canyon, down below Caliente, they used to grow a little corn there. They claim that that grew more “mountain dew” than any other valley in the state [laughing].

I just can't recall when I didn't know an Indian because, as I say, I was born on an Indian Reservation, and there was Indians all around. I didn't look upon them as different people, except that the Indian women were called squaws, wore those blankets—and this I can recall very vividly. I didn't realize it, but they were made by the Pendleton Woolen Mills, I think. (In fact, some friends gave my sister and brother-in-law two of those blankets that they use. They were old. They worked in a store down here, where the Indians had bought them and I didn't know they were Pendletons, but I looked at them and they were Pendleton-made.) And they wrapped them around the shoulders, and in summer they wore them just around the shoulders and then in winter they put them over the head. They used them as a coat and as a cape and as a warmth and they—. The Indian men more or less dressed like other people, but the women were very distinct. The girls didn't wear 'em because the girls that came to school—[I don't know] what age they started to wear them. But I can remember that they all had them. Then they gradually disappeared; I think they disappeared about in the '30's. Now you can't tell 'em from the rest of 'em. This was one of their garbs.

Now the older Indians. I've always been interested somewhat in history and fellowmen around me. There were quite a number of families there that their descendants are still in Wadsworth and Nixon. And the Shaws are

one of them. I can remember Jimmy Shaw, who was the grandfather or greatgrandfather of quite a few of them down there, and his wife. I can remember an old Indian woman who was known as Old Rosie. Now, old Rosie (I don't know what family she belonged to; she was either widowed or at least didn't have any husband. She was an elderly woman). She was supposedly at the first battle at Nixon, just south of Nixon; supposedly about a fourteen- or fifteen-year-old girl at that time. I think that happened about [1860], so she was supposedly a young lady at that time, and she supposedly remembered. I talked to her. I knew her, but I didn't talk to her about this particular incident; you see I was a little too young for that. But she supposedly lived to be about a hundred years old—her age was not known.

There was two or three other characters that I remember. One of them was Rawhide Henry. He was a tall, good-looking Indian, old, and he used to come by the ranch there and we'd give him sometimes—and sometimes sell him— some potatoes. He generally walked. He was a great walker. Sometimes he'd come by with the horses and wagons, but he really didn't have too many horses or wagons, but he'd come by. And he'd just show up. We had fruit in the summertime, but we sometimes gave him potatoes or sold him potatoes or gave him food or bedding, you know. I talked to him a little bit, and he says, “I remember when I was a boy up at Wadsworth, hiding, and watching the covered wagons come by,” so he must have been quite old. And I didn't realize how old he was. I just remembered he was a tall Indian, and a good-looking one, a good-looking specimen of an Indian. A fine looking specimen.

Then I had an old friend who was known as Joe Overalls. And old Joe had had an accident of some kind, and he'd lost a leg. So

he was peg-legged. He made rawhide ropes and headstalls, gloves; he was a leather worker and a good one. And he drove always a team, he generally drove a little team, and he had a buggy, kind of. And he was kind of fat, had a mustache—kind of odd-looking— stuck straight out, kind of. And he used to come by and we used to feed him once in a while and talk to him.

I have one little odd incident to tell about him, an odd story to tell about him. I've often thought about writing this up for *Literary Digest* and sending it to 'em , but I never did. It was really funny. I had killed some deer, and some friends of mine had given me some hides. I think I had five or six hides. So in those days you gave 'em a hide and they made the gloves. And then they split them down the middle; they took half the gloves and gave you half the gloves and this was a very good bargain— you know what I mean—for the whites. It was a little rough, I think, for the Indians, because it took a lot of time to tan those hides and make those gloves. But that was the custom. So he came by and I gave him three or four hides to make gloves for me. So we were looking them over and he came to one, and this wasn't the one that I had killed, it was one that somebody had given me. And I think it was actually a yearling; they told me it was a spike buck, you see. But he picked it up and it was light and small, and he says, "Um doe."

And I said, "No, buck."

And he looked at it again and said, "Doe."

And I said, "No, buck."

And he says, "Um hum buck. Cow kind!" [laughing]

And I says, "I'll just leave it like that." He wasn't going to disagree with me: "Buck. Cow kind!" Which was a pretty good—. I don't know who was right, but he got the last word in on me [laughing].

As I look back, the Indians had it pretty rough. Of course, I imagine that they were getting some relief and they were probably getting some government subsidy, or something. But not very much, I don't think very much. They lived in rather poor housing. Of course, the whites didn't live in much better housing because there was no electricity; in those days, there was hardly no electricity any place. The houses weren't like they are now. In those days, they didn't go by the square feet, they went by the rooms; there was no closets or anything else, no storage space or anything, you just had a room. You know, if you go through old houses, just board and batten, the wind whistles through them and you papered them.

Indian housing was poorer than that. They generally had just the cabins, one-room cabins or two-room cabins. Some of them had floors, some of them didn't. And they didn't have wells and they didn't have water. And the game was not too plentiful and they didn't have the mobility to get around. The wages were poor. They didn't have very much livestock. don't think they were as apt at growing things, or didn't strive for as much, so I imagine that many of them probably were hungry and in pretty poor straights. And I didn't feel sorry for them at the time, because I just didn't realize it, you see. I look back and realize that they really had some pretty rough times. But they were a proud people, they got by, I don't know how it was.

In Wadsworth they used to have—I guess they had them in all camps, but I can remember several times, that they would gather for a pow-wow, of some kind and then they'd have several days of visiting back and forth, and night dancing. I can remember going. They had big campfires and they danced around the campfires, right there at Wadsworth.

I remember their medicine man—one little incident—think his name was Clarence Mahone. He was a youngster I went to school with. He was very sick. I had another friend of mine, he was Clarence Conely. This Mahone boy's father had borrowed a saw from Conely and his Dad sent him up to get the saw. So we went up to "Indian town" and we knocked on the door and the father came out and Clarence told him what he wanted, and he went and got it. He went in the house and we looked in the house; I think we went in the house. And here was the boy very sick laying on the bed—probably pneumonia or something—and the Indian witch doctor or Indian doctor was there. He had, oh, feathers and I don't know what he had, but he was chanting and he was going through the process of—I don't know—curing him, anyhow. But I can remember that quite distinctly—it was dark, at night. I can remember that.

Oh, other things that I remember about the Indians was the rabbit drives that they had. This, I think, was common throughout. They would get wagons, horses, men, women, and children, and shotguns and they'd go out through the desert. And they'd just drive and shoot rabbits and throw them in the wagons. There'd be great piles of 'em .

I can vaguely remember a time or two when they had the mudhen drives down on Winnemucca Lake. I got in seeing barely one of them, but not even really very good but they used to go out and drive the mudhens in and kill them off, shoot 'em ; mostly not shoot 'em , run them down with sticks and clubs, and use them. But I was pretty small then so that I don't remember too well. But I can remember the Indian [rabbit] drives well, 'cause I saw quite a few of those.

[But they weren't using clubs on the rabbit drives by then?] No, they were shooting them then with shotguns, they'd

shoot 'em . Then I remember the Indians, one of the customs of eating the ground squirrels. They used to go around along ditches and along the ranches, you know. They'd come in ask if they could hunt squirrels, you always welcomed them very much because squirrels, these ground squirrels, some years they'd be in large numbers and some years there wouldn't be very many. They had five-gallon cans. They just dipped down to this ditch, and go out to a squirrel hole, and they'd stand behind those squirrel holes, see. And they either had a little club in their hand and they'd give it a little shot of water. Well, they had it all figured out exactly how much water to get the squirrel out, because if you just trickle it down it won't come out, see, very easy. But if you give it quite a little shot, so it all goes down at once, see. He says, "Oh, the water's coming in," and the squirrel comes out. And they're standing there with a club and they either knock it on the head with a club or I've seen some of them just stand there and as they come out they just grab him, grab him by the back of the neck and choke him, see.

So I don't know how they—I never ate one of them; I understood they cooked it in the fire, I never ate one, but apparently they liked that, I imagine they killed them, you know, and opened them up and there was nice white meat that looks good, I don't know. They're vegetarians, so we think of them as being just rodents, but apparently they were a food supply.

Of course everybody—not everybody but a lot of people—still eat cottontail, but I remember as a youngster eating young jackrabbits. I don't know if you ate them or not, but I'd go out and shoot a young jackrabbit and Ma'd cook it up. It's part of the meat supply. I haven't eaten one for forty years or more, but I guess I could still do it.

COLLEGE YEARS

I finished [high school] in 1928. Two boys from Fernley moved in 1927, they graduated in '27, and they were the first graduates from the Fernley high school. They'd been there one year. I was the first one to graduate, I and a friend, Olivin Sturla, and Marjorie McCarthy graduated in 1928. Olivin and I had been through school together since we started together, and we were the first graduates. He and I decided we should come to the University of Nevada. I think the University started about oh, the last 26th or 27th—of August, I think it was registration. So we didn't know exactly—we knew where Reno was, and we knew where the University was, and there was a University up here. He had a Ford, so we got our suitcases together and we decided we'd have to find ourselves some place to live in Reno. I stayed with the Joe Capurros and he found some friends and they rented an apartment, I imagine you would've called it.

We came up here to register and we went all through the lines and found out that our credentials hadn't been sent up. So we had to go back to Fernley to get the teacher to give us the credentials that we'd passed high school satisfactorily. So I put in four years up here, registered in agriculture. Finished in 1932. Olivin had to drop out for one year to get a little money together and came back and finished in 1933. The other two boys that had finished in 1927 started school here, but they finished the first year and then they dropped out in 1928. So he and I were the first graduates from that particular school at the University of Nevada.

I graduated from high school in 1928 in Fernley, and as I mentioned before a friend and I decided to come to college. My mother was very hepped on her children getting some kind of an education. My older sisters

unfortunately didn't have a chance; actually went through the eighth grade—there was no high school. So I managed to get through high school. So she was insistent that I go to college, and I wasn't averse to the situation, although we didn't have a lot of money. We weren't exactly poor; we weren't rich, either. But she would apparently want to make the sacrifice that I should go to school.

So we started out. We took those certain compulsory classes or required courses. Didn't have very many electives and so we took mostly required courses. I did reasonably well, I just got by with a 2.5. A 2.5 in those days was—. The rating was, 4.0 was the highest one; it went 4.0, 3.5, 3.0, 3.5, 2.0, 1.5; when you got down to 1.5, you were just about out. But I guess I made about a C average. Then the second year, I moved up a little bit, and I got by. I got so that I knew the [campus]. There were only about four or five buildings on the campus, [but] I had a hard time finding my way around; I'm just a country kid trying to get around. I didn't join any fraternity or anything.

The first year, my family moved into town. Mother owned a house here and since there was nobody to drive the younger sisters to school, they moved in and they enrolled in the high school and the schools here in Reno, and I stayed at home. On the second year, I stayed with a family. And the third year, I moved into Lincoln Hall, stayed there for two years.

I joined no fraternity, but I was quite active. I was on the upper class committee and I was on the Homecoming day committee or whatever, two or three things. I became president of the Aggie Club, so I was quite active.

During my senior year, I think it was, it was during the Depression and the economics or the finances of the University weren't so good, so they decided to close down the farm

on South Virginia. They discontinued the farm, they rented out and sold the livestock, and rented the farm out. And that was our lab for livestock.

So we put on probably the first demonstration that was held at the campus here that I know of. We buried "Campus Joe." "Campus Joe" was a papier-mache horse. It was on wheels, and it belonged to Prof Wilson, and he was in the Ag building. So we got Keith Lee dressed up as a preacher and some of us acted as pallbearers: and wheeled poor old "Campus. Joe" out and we tied ropes to him and lowered him from a window, we lowered him down into the basement of the Ag Building, and Keith Lee preached a burial sermon for him. And about the time when we started, we gathered up quite a little group of students. I can remember the—I don't know how the newspapers got ahold of it so fast, but they had photographer and a reporter up here, covering the scene. This was not a violent protest, but we did protest it. The youngsters aren't very much different then, than they were forty years ago [laughing]. It didn't do any good; the farm was still closed. Eventually, the University came back and got better facilities than they ever had. But that was during the Depression and everything was shut down.

I look around at the University now, the College of Agriculture and the University up here, and the facilities and the opportunities for youngsters, and knowledge of the information that is here, is so much greater than it was when I was here. We had regular textbooks, and the library wasn't too good, actually the information wasn't there. There was some information, but it wasn't as extensive as it is now, either for livestock or for soils or plants or anything else.

But we had some very good teachers. One of the finest ones was, of course, Dean Stewart,

the College of Agriculture, a very fine man. He was a soils man. I liked him very well. He was a very fine man. We had Prof Scott of dairy and poultry, and he was a very outstanding man. A very good teacher. We had Prof Wilson who was in the animal husbandry; he was a good teacher, a nice fellow.

One of the best teachers probably we had was Dr. Lehenbauer; his specialty was botany. And he knew his botany, knew his plants. And I took two or three courses from him. Very excellent. I could key any kind of a flower that you gave me, I couldn't do anything with it now, and I couldn't recognize it, but when I got through at the time that I was here, I would consider myself pretty good botanist. Of course, I didn't follow it in strictly as botany; I just used what I could and what I had to, as a county agent. But he was a very fine instructor.

In my other teachers, I had Jennie Wier, who taught in history; she was a good history teacher. And one of the sweetest and finest people I know of is Katharine Riegelhuth, who just died here recently. She taught English, I took two or three courses from Katharine. And she was one of the reasons, probably, why I stock around on the campus. She was very kind and encouraged me. I wasn't very good at English, but I think she thought quite highly of me because I—. She related to the students, and if you tried, she'd give you help. She was a very fine person, a very understanding person. I had a lot of other fine teachers that were here, but those were the ones that kind of stand out in my memory.

It was a very pleasant experience; I enjoyed it. I didn't have any money, but the rest of the students didn't have much money either. We lived at Lincoln Hall; the time I lived at Lincoln Hall was pleasant to me. We ate at the dining hall, which we called the Gow House. And what is it that they charged us?

I think it was something like eight dollars a month for the room. They figured that all the expenses you had was about \$475 a semester. Maybe 475 a year. No, it must have been a semester, board and room, books, and what-have-you. I think it was about 475 a year. So it wasn't too expensive to come here. Of course, we didn't have any money and there wasn't any. In those days, it was pretty hard to get a job downtown. They just didn't hire any students. I didn't go into particular athletics; we had to take p.e., so I took p.e. and I was interested in learning tennis and this kind of thing there just as amusement. But I didn't go in for athletics.

I was not a great athlete and I was not a great student and I wasn't a great lover, either [laughing]. But there were a lot of good-looking chicks around. I didn't have too much money to fool with the chicks in those days. So you kind of pass them up—there wasn't too many girls either, you know. I think they ran about, oh, it's probably as high as three to one. At least two to one, boys against girls. So when there was an event on the campus, if you wanted to go, why, you generally went downtown and hustled a girl downtown to take to the events, unless you were a lady's man up here and could horn in on some of the beautiful young ladies that were up here.

Of course, the cost of food, clothing, was a lot cheaper. You didn't have the entertainment that you have now. I don't know what else—. Health care wasn't exactly the best but maybe I was healthy, I don't know. As I recall it, the classes were small so you had what were pretty outstanding—most of them were pretty outstanding— instructors. So you got a lot of personal help that you needed, which was very good.

[Do I want to talk about campus traditions?] Tradition That was it. Did you go see the "Fiddler on the Roof?" Tradition,

tradition, it was all tradition. When you came in as a freshman, they gave you a "beanie;" that was a little hat that you put on your head, a little skull cap. Blue. And they gave you a "bible," which was the rules and regulations of the University that you, you know, how to conduct, and so on. The seniors were the almighty, they'd get pretty rough with you if you didn't have your beanie on or if they stopped you on the grass and they asked you to quote what was on page seven, paragraph three or so on, and you couldn't quote it, why, you could be laked or you could be paddled or—. Oh, if you went into fraternities or sororities, there was quite a ritual for initiation, and this was pretty rough. But in spite of the disregard or the unpopularity of rules and regulation that we have now—you couldn't cut campus, for one thing, and the lawns were beautiful, and the flowers were kept in good shape, and the campus was a lot cleaner than it is now. So it did serve some purpose. You didn't throw out cigarette butts, so on and so forth, and you didn't cut across the lawn, if they caught you, why, you were laked. The lakings took place in the back of the Ag building. They asked you to show up and they'd go downstairs in the Ag building and take them out one by one. The sophomores were enforcing the rules, and four of them would get you by each of the extremities, and "One, two, three, and out you go!" So you were out in the water. Oh, they'd just grabbed you and took you down there. I saw sometimes, some of the freshmen would object, and I saw quite a few fights that were a little bit rough to be doing there, but they weren't so bad. But it did teach a little respect for property.

I laugh about it now when they got the campus police. We had a little old watchman that used to go around, and, you know, watch for fires, that's about what he did. Now they have a whole University police force.

Of course it's somewhat different. We had about a thousand students at the time that I was here. I think that one year it reached up about twelve hundred, but right around about a thousand students were here. But about the only campus police that I can remember was this little old watchman that punched the time clocks and this was campus security. If they had any problems, and we didn't have very many problems—once in a while some problem would come up they would send for the police and the police would come up, but there was never—no problems.

They played pranks once in a while. One night I can remember very distinctly, somebody put a red flare over at Manzanita, across the lake there, and somebody saw it and they turned in the fire alarm. I was staying at the Lincoln Hall, and here comes the firemen up there, and the girls come rushing out. This was kind of an odd incident. We went out and took a look at it—my roommate was Olivin Sturla; we'd gone through school together pretty much, and we were roommates. He ran out and he took a look up there and said, "There's a fire," he says, "I'm getting out of here," and he ran in and pulled on his pants and he came out and he had a tennis racket and a pair of shoes in his hands [laughing]. I said, "What are you doing with that?" He dropped it right on the floor see, he was all excited see, he dropped it right on the floor, it was just a prank that somebody had pulled [laughing].

We did have some—oh, a pretty good time at the hall. When he and I moved in up there, we were a little older actually. He was the same age as I was, he was about two or three months older than I was. We'd been around; I'm telling you, we knew the town, Reno. We'd been around, we were a little older and we had had more exposure to adults; different kind of a life styles. So we'd been around. So

we had played a little poker and one thing and another, you know. So we looked over the boys up there and most of them were a little younger and they hadn't been around so much. So we got to playing poker a little bit. We weren't doing too bad; we didn't take 'em too much, although we took 'em a little bit, you know.

They were always in our room and the room was always full of poker players. And one night, we got in an argument. One fellow was kind of acting up a little bit, and I got in an argument with him and he kind of got a little smart. And my partner, he was pretty close, he was sitting across the table and he stood up and he was going to take a sock at him and I was going to take a poke at him, and everybody cleared out of the room, you know. When we cleared all out, we decided well, this is deep enough. We quit our poker playing because we knew we didn't want to get into trouble, we didn't. We just stopped it on our own.

There was a little bit drinking problem in those days too, not bad. The kids used to go out on Saturday nights, some of the boys, and get a little off. I got loaded a few times with liquor, but nothing serious. The master of the hall up there, Blackier was his name, I think. We went out and had a party one night, a bunch of us boys, we got a little liquor. We came in, and we thought we'd come in the back door, you know, so we wouldn't be seen. His apartment was over in the back. And he looked out the window and watched us walk up the back door and he knew that we were loaded [laughing]. So, the next day he nailed us. And we back off, you know, and didn't put up any fuss. We put a stop to that, too, because we didn't want to get thrown out. And on a few other occasions we got loaded. Homecoming and one thing or another. But it was never serious, it was not. This was

during Prohibition, too. It was not a serious problem here. Oh, the boys sometimes get a little loaded; and I guess the girls did, too. But there was a very distinct difference between boys and girls in those days. The girls, I don't think, drank as much as they do now; it wasn't as common, wasn't as popular. They smoked less than they do now. I don't think it was common and popular.

And there was hardly any married students up here. I can remember of only two, two friends of mine that were married. The rest of them just were not married. You didn't come up here to get married. The school teachers came up here to get an education, go out in a school, and then catch a cowboy or a hard rock miner or something out in the country. You know, when they went out to teach. And the boys, they just came up here for an education.

Oh, there was some intermingling, but marriage was not a sought after status in life. What would I have done with a gal? No jobs, I had no money to support her. She didn't, most of them didn't, have any; I know most of 'em. Marital status was—there was none. As I remember right, there was only two students; Norman Annett from Smith Valley and Trevitt, I think he became a preacher and he got married. He and his wife got married, I think, when they were up here. But I didn't know any other married students. They just weren't.

Annett married a girl from Smith Valley. They were big sheepmen out there. Her name was Day, and they owned a lot of property in Smith Valley. He graduated in mining engineering. He worked in South America, he worked oh, around there, and finally he wound up in Smith Valley running the sheep outfit. Then he sold all his sheep and sold all his ranches and holdings in Smith Valley. And he had some holdings up at Bridgeport on

the lakes up here. He's made a fortune selling property, and he's got a store and what-have-you. I haven't seen him for quite a few years. He was a go-getter. I haven't seen him for five or six years now.

But there was very, very few marriages. You didn't talk about marriage. You took a girl out, you kissed her good night and sometimes in between. You kind of controlled your emotions a little because—what were you going to do with a woman?

You had to support 'em in those days. In those days the concept of marriage was slightly different. If you married, why, you were old enough to support 'em and you were old enough to take care of yourself. And so ma and pa didn't shell out and say, "Well, we'll send 'em a little check, too, so they can go to school." That didn't happen. I don't know if you went through that process or not. But this was one of the processes that we did.

It's a little bit hard to state, or to find yourself. The youngsters talk about finding themselves, yet. This was no problem with me; I knew where I was. I grew up in agriculture. This was my background, I like it, I studied it at school. At that time, there was no call for any great amount of agriculturists. There just wasn't. There were the county agents and the forester and a few of these jobs, but not very much. There wasn't very many employed in that. There was a few agricultural economists and diary specialists but they were mostly connected with the university, all more less connected with universities or government agencies. They are using them now, of course. Commercial firms and so on and so forth are using them much more now than they did in those days, but in those days there just wasn't very much of that work outside of a university or government agencies. So, the future didn't look very bright in there but I liked it, and I took it. So the combination of

the background that I had in agriculture at home with livestock and crops and water and what-have-you, I was pretty well prepared. I had an advantage over most of the youngsters.

Most of the youngsters that come in now, they come in agriculture, whatever might be, they just—I talk to some of 'em , they just do not have any concept, any background. A lot of them, for example, want to be in wildlife management, or I mean wild game management. They have no idea of what it involves. They think that just because it's outdoors and you shoot and kill game, why this—they have no concept of what it is. So I think it must be very hard. With me it was rather easy 'cause I had this background. And I got that instruction, and actually, probably I was fitted for my work, probably as much by my father as by actually having done it, experience, as I was from college. You know, whenever I got in a real tough spot I said, how would Dad have done it? [Laughing] This was kind of a Bible, see? Or how would my neighbor have done that? Or how, would—on the practical side of it.

So they did come up with the great expansion in the government field for agriculturists, but it didn't come up till they passed the legislation in 1932 and '33, that brought along Grazing Service and AAA and Soil Conservation Service and all those conservation agencies. This opened the field up, and I happened to be at the very beginning of it, and I stepped into it and found my niche in that, and I liked it.

AGRICULTURAL EXTENSION WORK IN LINCOLN COUNTY, 1934-1943

INTRODUCTION TO LINCOLN COUNTY

I graduated in 1932. There just were no positions available either, and since I was trained as an agricultural agent, I couldn't find any employment in private industry as such. There was no governmental agencies at that time (or very many of 'em) and there was no openings for county agents so I returned to the ranch and stayed there from the time of graduation—I think it was in June, 1932—'til I was called by Mr. Buckman, in April, 1934 and told that if I wished, I could go to work as an assistant agent in Clark County on May first, 1934.

During that period of time, I just went back to the ranch and worked more or less as a laborer on the ranch. I stayed with my family and sisters and family. I knew that I couldn't stay there too long because of the smallness of the place. I had several sisters that still had to be raised and educated, so I took the first job opportunity that I had.

Before I left the campus, I'd gone down and made an application to Mr. Buckman

and he said that he would call me, but I never expected to receive the call in 1934 [laughing]. I went to work as an assistant agent in charge of the corn-hog program for Clark and Lincoln counties, along with the other programs that they had going in the Extension Service. This was the result of the vast number of agricultural and other programs that came on with the Roosevelt administration. I think most of them were passed in 1933, where they were trying to reduce or control production. And the only things that we really had in Nevada was very little corn and some hogs.

So I came into Reno, May first, and reported at the Extension office, on the campus, and then they gave me a training for about two days or three days. Then I left Reno with Prof Scott, who was in charge of the corn-hog program for the state at that time, and traveled to Ely, Nevada where they were having a Farm Bureau regional meeting. We got into Ely on the evening of May the fourth, and on the fifth was the meeting and we met all day. And there I met Mr. John Wittwer,

who was to be my senior agent and several of the other agents and the farm bureau people.

We drove to Pioche that night—on the fifth—end I had my first sight of Pioche. We drove on to Caliente, where John Wittwer introduced me to Mr. Senter, who was the garage man that kept the car for us, and to some of the businessmen in town. I got a room at the UP hotel. John, before he left, drew a map and told me who to meet and where to meet and how to do things and took off for Las Vegas. And that was the training that I received [laughing] as a county agent!

I got up the next morning bright and early and had breakfast and went up and got the car and inquired about directions and roads, although I did have a map that John had drawn for me, and I went to Panaca, where I met with some of the committee men and Farm Bureau officials there. One of them was a Mr. Lee, Henry Lee, who was a quite active in that area, and James Wadsworth.

There was a hog program there. I think there was about three people that were entitled to some payment there and I filled out the forms. Then I went on to Pahrnagat that next day, and I met with the county committee there. And since there was quite a little corn grown in Pahrnagat and quite a number of hogs, we had quite a lot of work there. We organized the committee and I stayed, I think, one or two nights in Pahrnagat. Then I proceeded to Moapa and Virgin Valley, and I organized a committee in Virgin Valley and one in Moapa Valley and got names and signatures. Finally pulled into Las Vegas on May the ninth, and on the tenth, I reported to the office in the post office in Las Vegas, met the secretary. There were just two employees actually at the extension office, that was Mr. Wittwer and myself. We were supposed to have a part time home agent and we had one secretary. It took me a little while to get

acquainted with what I was supposed to do, but John was a—he didn't teach, he just took you along and you helped with the work. That was the training that you had.

He sent the secretary and I out and [we] met with some of the ladies, leaders down there, and we started to organize 4-H Clubs in the Las Vegas area. I think we organized two or three of 'em . And then I was back up to Lincoln county and tried to organize 4-H clubs and do other work of that nature, along with the AAA work.

My compensation for the work was \$124.75 a month and it was five and a half days and a lot of night traveling and night meetings and that kind. We were allowed four dollars a day for expenses and we had to have a written or a signed receipt for our expenses. It wasn't so bad as it sounds, actually. You could get a room in most of those little towns for about a dollar and a half to a dollar seventy-five, so it left you two dollars, or two and a quarter to eat on. I remember very distinctly, in Pioche there was a little restaurant on the corner where you could get a rib steak with all that went with it, the bread and the vegetable a little desert and coffee for sixty-five cents. So this wasn't so bad [laughing]; it wasn't the fanciest restaurant in the area, but you could eat. And breakfast, generally if you spent thirty five or forty cents, why, you had a pretty good breakfast.

I did a good job of getting acquainted with the natives. One of the things I remember most on my first trip there was, I stayed at Mrs. Castles' in Hiko when I went to Pahrnagat. She had an extra room and she generally fed you a little something to eat when you came there. She had a little ranch there.

I thought I'd go down and get the neighbors, sign them up on the corn-hog program. I went down there and the man of the house, the rancher, and his oldest son had gone out, they were out on the range

rounding up cattle, and they had left the wife and two or three of the girls. None of them could milk cows and they had about seven or eight cows that needed milking. The sun was going down, and they were wondering what they was going to do about gettin' the cows milked. And I says, "Well, I'm an old milker," and they had the same kind of cows that I'd just left the ranch. I grabbed the bucket and milked the eight or ten cows and we separated the milk—it was Delaval's separator, and it was the same as the one I had left on the ranch, so I didn't have any trouble putting that together. And they fed me my supper that night and I talked with them and I was in good with them. I think the word spread up and down the valley that the new agent could at least milk cows [laughing] I So that kind of put me in pretty good.

Another time shortly thereafter, I was going by the road and I noticed four about four or five farmers that were out looking at a cow that was laying on the ground. They hailed me and they wanted me to bring back some spirits of niter, or go to the drug store and send back some spirits of niter for the cow. And I said, "That are you going to use that for?"

"We have a sick cow and we don't know what's the matter with her." They didn't know any other cure.

I went over and looked at her and I could tell that she had milk fever. So I said, "The spirits of niter are not going to do you any good, but I think we can, if you want to risk my poor knowledge on this subject why, we'll try to get her out of it." So we made her a little more comfortable, then we pumped her bag up. We didn't have any solution to put into a vein to cure the milk fever, but we pumped her bag up and made her comfortable and then I left there.

The next week, I was over there and the farmer that owned the cow, he saw me coming

down the road and he hailed me. And he says, "I want you to come over to see the cow; she's doing as good as ever." So that made my kind of a reputation. And from there on, I was wanted as a veterinarian. I had to excuse myself that I was no veterinary, but my name got scattered around a little bit:

FLOOD CONTROL, WATER AND POWER DEVELOPMENT

I thought probably we might go back a little bit, to the start of so-called flood control. I think it was September 25 in 1925, John H. Wittwer, who was agent with me, had just been appointed agent in Clark and Lincoln counties. And he was going from Moapa Valley up to Glendale. In those days, it was a dirt road and you crossed the creek several times. And as he went to cross the creek with one of the old cars, here was the creek; the creek was in flood. The Meadow Valley Wash was in flood. He had to wait several hours to get across. And at that time, the idea struck him that, here is flood waters coming down the Meadow Valley Wash (and it took him quite a number of years to trace those waters clear up in the Meadow Valley Wash, and into the upper reaches of the Meadow Valley Wash, and the Clover Creek out of Caliente). As I said before, Mr. Wittwer, I have a lot of admiration for him, and I think this is probably one of the first conceptions of flood control that struck anybody.

Taking that as a starter, he got the county commissioners in Lincoln and Clark counties to put up some money for a flood control study. I think they put up about fifteen hundred dollars in each county; to be exact, I think it was fifteen hundred dollars in Lincoln County and twenty-five hundred dollars in Clark County. I don't know how this was administered, but it was administered

through the county commissioners. And they hired King and Malone [engineers] to do this. And the man they sent down there apparently was [George W.] Molly Malone who later became United States Senator. He Was also a state engineer, state and water engineer, but at that time working for King and Malone. And he made certain—I guess they were really horseback surveys—but he suggested the Delmue Dam in Lincoln County for control on the Meadow Valley Wash branch that goes up past Pioche. And he suggested the Pine and Mathews Canyon dams in the Clover Valley Creek that comes into the main Meadow Valley Wash in Caliente. Then he went down and suggested some construction work on the Upper Muddy and some work on the Lower Muddy, also. As strange as it may seem, that was the best and only really flood control suggestions made in years. And that served later when the Soil Conservation Service and other agencies became active down there. That kind of formed the basis for some of their thinking and some of the work that was done. And it formed a basis for much of the 3-C campus [CCC], soil conservation 3-C campus, that were established in '34, I think, in that area. They did some work, and it was based on King and Malone report.

Since then, there has been a number of things happen. When I came into the picture in 1934, we began working with the Soil Conservation Service and the Army Engineers and any other group we could find. And as a result of that (this happened after the war; it happened in 1946 or '47), the Army Engineers did build the Pine and Mathews Canyons dams. The Soil Conservation Service built four or five drop dams in Rose Valley and Eagle Valley at that time.

I suggested to them—there's quite a little story behind that, about how they did it and some of the disappointments that we had.

But that's neither here nor there; they were established and the Delmue Dam never was built because the Union Pacific Railroad branch that goes from Caliente to Pioche goes right over the area where the Delmue Dam was to be built. And the cost of moving the dam and all would have been far too great. As I look back on it now, I wasn't very smart and nobody else was very smart, because the Parks and Recreation (or the division of Natural Resources now—I know it's the Parks; it probably comes under the department of Conservation and Natural Resources), they'd have built a dam for recreation purposes between Spring Valley and Eagle Valley; there's a nice park there and a nice little lake there. And later on, about, three, four years ago they built the Echo Dam and recreation and park [near Pioche]. And this was just about three miles above the Delmue Dam and it's just as good a site—the only thing, we just didn't see it at that time, otherwise it could have been done; those things could have been done, probably at very little local cost. And these dams now are used strictly for recreation, but they do help in flood control.

The Pine and Mathews dams were enormous structures. I have never seen 'em , but I understand they're very large. We haven't had a flood that really filled 'em , or they haven't done the protection that they were intended for, probably because there hasn't been a storm of a magnitude that would fill 'em and would save the Meadow Valley Wash.

The reason this all was brought about was that the Union Pacific Railroad went right down through the Rainbow Canyon, which is where the Meadow Valley Wash goes. It had been washed out on several occasions and considerable amount of damage was done to it, and railroads were held up. And then the water went on down to Moapa Valley where more damage was done to farm lands.

The Soil Conservation Service established, I think it was two camps. One was in Moapa Valley itself and they helped build the Bowman Reservoir and they worked on some other soil conservation features in the valley. And then there was one on the Upper Muddy, up at the Warm Springs ranch, I think they call it. And they did some rather odd work on the Meadow Valley Wash. They put a spread of dams in there. I don't think they were too successful. And they built a dam on one of the branches of the Meadow Valley Wash, known as the Arrowhead Dam, and they did a pretty good job of building it, but they keyed it into the (the channel goes up through a narrow canyon) rock canyon. They built the dam of rock and cement, and they keyed it into the side of the walls. But they put no great foundation on it—they forgot to put the foundation in it—and they had a storm [laughs], and it came down and it just washed under the dam and left the dam sittin' up there high and dry [laughing], first storm.

They had another camp at Panaca. The work was done, actually, to provide work for the [CCC] boys, you see, so they went on ahead. At Panaca, every summer, there would be two or three little floods that would come out of the Panaca Wash, come right through town, and did damage to the houses there—sometimes go right through the school grounds, and did damage there. So they went just east of the town and they threw up an earthen dike and then ran the water kind of to the south, and then let it down into the main Meadow Valley Wash down below Caliente, south of Caliente.

Well, they built three structures there. They're supposed to be drop dams made of rock, and they look very pretty and they look very safe but the unfortunate thing, when they were finished, the first flood that came by, it didn't go over the lip of the dam at all;

it just went under the dam and left them sitting high and dry [laughs], which showed very poor engineering. It really looked funny, because the first water that came down, that water didn't run over the lip of that dam more than five minutes till it, just going through that sand, dug out underneath and left 'em sitting there. This was kind of unfortunate. I think they've corrected it now by building a little reservoir that just dribbles out now, and there's no particular problem.

If they hadn't actually grouted those rocks together, if they'd just thrown up pretty good foundation, if they'd just thrown loose rock on it, it would have served a purpose, but they thought they would make 'em look pretty and better. And actually, they forgot good engineering principles. I don't know why somebody didn't catch it.

They did almost the same in Rose Valley; the channel itself had been cut so deep that it had drained these little valleys—both Rose Valley and Eagle Valley—and they were wondering what to do. I'm not an engineer or a scientist of any kind or anything, but I said, "Why don't we put some drop dams?"

So they took the suggestion and they did put in a drop dam and they started to put in three dams, three drop dams in Rose Valley. And they decided they would put in what they call log crib dams or rock crib dams. That is, they went off and they cut a lot of poles or posts, cedar posts, and then made a kind of cribbing and then filled it in with rock and put it in the creek, you see. And the water would flow through that and wouldn't wash the sides and then they put dikes on either side, going off to the side of the valley, so it forced all the water over the dam. To do this, they didn't know the amount of water that came down, or the size of the creek, or how they should build them. So they sent up a crew of eight or ten men that made a survey of the whole

Upper Valley, of how much water would come down at the greatest flood of waters.

I was quite disappointed; I put up quite a little protest. I said, "You don't have to do that." I says, "All you have to do is look at the wash and make it as wide as the wash."

And they said, "No, this is not so good, we know exactly what we're doing."

And I said, "Well,—"

So they decided that the width of the drop dams should be cut down by about approximately half. I said, "No, that won't do; you're going to get some trouble."

So they finished, and they were finished in the fall. It was finished in late summer. The first flood that came down took all three dams, because the spillways weren't large enough. So then [laughs], so then they were in trouble.

So they redesigned the dam and they put in, actually, four drops dams, concrete drop dams. Three in Rose Valley, and one at the end of Eagle Valley. And they have had no repairs or anything; I think they're still there yet. Those were just above Echo Lake that I spoke of a while ago. And as I say, again, just not very smart. Otherwise, we could have rebuilt Echo Lake.

Now, the Soil Conservation Service was very active throughout Lincoln County and Clark County, and through the Soil Conservation Service, we did get some drainage. In Pahrnagat Valley, that was caused by the springs. The water was constant from the springs and in summer, it was used on the crops and it evaporated. But in winter, it would collect on the bottom and go down in the main bottom of the valley and it caused lakes and wet and dampness; it couldn't be worked. So we did get quite a little drainage there, both from the 3-C camps—well, they had a 3-C camp, and that was done by hand, and later we got draglines and did more of it. There was some ditch lining, concrete ditch

lining that helped. So that brought quite a bit of production; it increased the production in Pahrnagat Valley by quite a bit.

In Clark County, I'm not quite as acquainted as I was in Lincoln County, but they did do some good work there, right in the valley itself. Again, a lot of it was of a nature that was a trial and error method; some of it worked and some of it didn't. John Wittwer had planned quite a program for Las Vegas Valley itself. The Las Vegas Wash at the present time goes right through the Strip. At that time, he had planned—and we worked on it—to get some flood control reservoirs towards the mountains on the west and improvement of the channels, so there would be no flooding in Las Vegas. But again, nobody understood, money wasn't available, and eventually when Vegas started to build up, land became so valuable that they still have the problem and they're still being plagued with it, but they'll have to use other methods. But this was an early awareness by John Wittwer that this was going to be a problem. It was beyond his ability to bring that to the attention of proper officials, and the officials themselves didn't see it.

The Union Pacific Railroad worked with John Wittwer and myself pretty well. They had representatives at all the meetings. John Wittwer was probably one of the best organizers. He could get a group of people together and get speakers and try to make the powers that be conscious of the problems, but in some cases they were just too big.

I should mention that John Wittwer's and my supervisors, Tom Buckman and Cecil Creel, were very sympathetic to our work there and they did give us quite a bit of help. Especially Creel, in Washington. Whenever we ran into trouble, we tried to get him to call attention to proper officials in Washington and he did. We did get quite a bit of help from

senators and congressmen; Senator McCarran and Congressman Scrugham were active in that. We had 'em on programs, speeches. The Army Engineers came into the picture a little bit later. I think about 1936 or '37, we began to interest them in that area, and they did develop some plans, as I said before at Pine and Mathews Canyon and at Delmue's. But the war came on in 1941, and I moved out and that held up everything. The Pine and Mathews were built after the war.

In the soil conservation work, as it was called in those days (flood control if you want to name it another name), we did use the local organizations. First, we used the Farm Bureau. This was very effective. To get the Soil Conservation Districts or camps in there, we used the Farm Bureau. We used Senator McCarran and Congressman Scrugham in that. A little later, we had the Bureau of Land Management camps come in, one at Delmue's. And again, on that one we used Congressman Scrugham mostly on that one. They did a lot of good in range improvement; they put in stock watering tanks and trails and this kind of thing, which was good for the cattlemen, livestock—it actually was good for the area.

We organized the Soil Conservation Districts, one on the Meadow Valley Wash Soil Conservation District and the Pahrangat Valley Soil Conservation District. They were very large areas; they didn't represent a terrific number of people, but they were very large areas. You had the people vote on 'em. I remember goin' out, rustling votes for the district. We had some opposition, but they went through fairly well. There was some disappointment that they did not come up with some of their promises, but they were useful in some ways.

The Army Engineers, we got those interested, I think about 1936, '37 and they started to make the surveys in that whole area.

And as I said before, 1941 the war broke out and everything was held up, and I think they finished in 1946, '47.

Well, I wasn't particularly interested in mining. When I moved into Lincoln County, I couldn't help but become interested to some degree and recognize that it was the dominant industry in that area. The leading light in that was Ed Snyder, or the Consolidated Mining Company of Pioche. They had several mines there, quite large bodies of ore. Now, Mr. Snyder had developed a means of treating the ore—it was complex ore. He'd built a mill. When I went there, the big thing that was holding him up—of course, one was price, but the other one was power. After Hoover Dam was built, efforts were immediately made to bring in Hoover Dam power because it was very cheap.

[This] was done and the power district was organized, I think an enabling act of the legislature, which set up the power district. They started to work on it in 1937; it was completed in 1938. The contract for the building of that was let to a Texas company. I guess they were successful in Texas, but they came out into those mountains and they were not used to the area, and they ran into a lot of rock, and they finally went broke, and the district itself had to take over the contract and complete that power line. But this gave power to that whole area at a very cheap rate.

It immediately stimulated the mining and then with the war breaking out, it stimulated it further with prices. The mines in Pioche were very active through that period, starting about 1935, [it] lasted clear through the war. And I'd say they closed down probably oh, in the '40's, late '40's, after the war. And they've been in a pretty bad slump since. But at one time they employed about 350 or 400 men.

There was considerable leasing in that area—silver. Silver was mined, and copper

and zinc, mostly, was what they were mining. At Bristol, the mine's the same way; they mine generally copper and zinc, but there was also a little copper mined, produced in the Bristol mines. They were very deep mines. Oh, and it developed the Tempiute mine—Tungsten—and they built a power line to that and then it was later on, I understand, it was torn down, which was an unfortunate thing.

They organized a little power district over in Alamo and they brought power into Alamo. And when they strung the line to Tempiute, they were able to serve the rest of Pahranaagat Valley. So it brought power into that whole area, and very cheap power. I think, that up until very recently they were selling that at five mills per kilowatt hour, to the consumer, that is.

It stimulated and permitted the drilling of wells, and pumping of wells, in the Panaca area. This has been a blessing, because the water was very limited there. They had land, but the water was very limited. It has developed quite a little agricultural land in that area.

I played a little part in that. We had the Water Facilities Program in effect at that time—this was about 1936 and '37— and they sent the men down there. A landowner could apply for a loan through the Water Facilities and it was handled through the Soil Conservation Services, some way. They bought a drill and Water Facilities would grant up to eight hundred dollars for the sinking of a well. And if the well was successful, the farmer assumed the eight hundred dollars, the cost of the well, and then they loaned him money for casing and for other pumps and what-have-you—everything else that went with it. So we used this to develop the first wells in there. We developed the first wells in that area. And it was a rather interesting piece of work, because I couldn't convince anybody that there was

water in that area. I kept saying that there was water—a lot of 'em just wouldn't try it. Finally, I think it was Mr. Lee—let's see, what was the name—he was the dairyman there; he finally agreed to accept the loan. He had a piece of ground. This is another thing that I had a hard time convincing 'em to expand their operations, not in limited—the amount of land that was there was very small and it was divided in very small parcels, so they didn't think big enough.

It was hard to convince some of those people that there was water, and that they should kind of expand their view of what a ranch or farm—rather than just a very small piece of ground, that it could be quite a bit larger, since there was quite a little land in there. The Meadow Valley Wash probably represents the only large flow of water in that whole southern end of the state, except for the Virgin River and the Amargosa River, which is over on the Beatty side. But if you look at the area there, this is the only large stream of water that comes down there. The White River goes on down through there, but there's great areas that there is no water and it's deep. And here's high mountains and water comes down off the mountains and it's used for irrigation and this is a recharge—the way I looked at it, it was a recharge of the underground supply. But it was hard to get 'em going.

I think it was in 1935 or '36, that we first broke the ice, and Mr. Lee contracted to have one of those wells, down between Panaca and Caliente. He drilled, a well was drilled, I know it was over about a hundred feet. The water came up to within, I think, thirty-three feet of the surface. They had no power there and they used a tractor to draw the water.

But we had a problem in that the way that the state engineer interpreted water favor in those days, is that four acre feet of water was sufficient to irrigate an acre of land, and

they limited the water discharge from the well. In other words, they didn't want 'em to pump any more than—they wanted to limit the amount of water they used by the size of the pump and the delivery of the well. And this is wrong, because if you take it over the entire season it's all right, but when you want water you sometimes need twice as much as you're actually supposed to be drawing, but then it will come a period when you'll only use half as much of don't use any at all. So you have to have a larger capacity, actual pumpage capacity, than you have a usage. The other thing is that a small stream of water is not as effective in irrigating; it's least efficient. We had quite a little trouble with that. They limited their pumps, for example; that well was limited to one acre foot, 455 gallons, and it was capable of probably three times that amount. So he was limited to about forty acres of land. Now, of course, its changed now, but in those days that's the way

There were about eight or ten wells put in. And they all insisted on using their tractors. I had the hardest time convincing 'em that they should get local power, which at that time was five mills, which is very cheap. They said, "Well, we don't use very much when we use our tractors," but when you use the tractors you're not doing something else—the tractor is not intended to be pumping water, and the gasoline and everything is more expensive. I tried to get 'em to organize a little cooperative and run a power line to furnish some with power, but I couldn't do it.

At that time, the power district was not interested in extending their lines because they were selling practically all of the power they wanted to sell, to the mines. And since then, this has been corrected and they have power lines that extend in the valley and cover those wells. They extended their pumping all along the Meadow Valley Wash, from

Caliente north up through Panaca. They've extended up to the valleys, Rose Valley and Round Valley, and they've gone out to Wilson Creek—that's up close to, about opposite Pony Springs, east of Pony Springs—and there's quite a large development there of farms and ranches that haven't been developed with power, and they've run the power line over there.

It's a strange thing now, the farmers and ranchers are using more power than the mines, just a reversal of when I was there. In order to justify the building of the power line from Hoover Dam to Pioche, the directors of the district that was organized, in the Pioche power district, they had to use all the information that they could get. So they asked me to make up a report of the possible uses of power for pumping purposes, where the land would be developed, and the amount of acreages that were possibly there. Well, I just had to make a long guess, and since there was nobody else that would make the guess, I became the Department of Agriculture and made the guess for 'em. I presume that report has been lost, but I did make the guesses, and I estimated, I took maps and made an estimate of the land that was available and the one which I thought would probably develop. Strange as it may seem, I think, if I could dig up that report, I hit it very close. I was just estimating.

I laugh about things now when they get to put a project like that together they have to bring in all the experts and make very formal reports, which sometimes cost more than the project is worth. But in those days, this was the only way that they could do it. My report, of course, just became part of their overall report, but they used my figures on it.

You asked me how I convinced 'em to drill their wells. And it wasn't so hard. I didn't realize it at the time, but I used economics on

'em. Here was a community that lived on feed production, that needed extra feed and the feed was costly and there was a very limited amount of water. And here was some land that was just as good as the one that they were using. So it was just a matter of saying, "Well, look, you can put this under cultivation and you can grow hay or so much other crops and you need it in feeding and so on and so forth."

One of the big things that we [did] was through the Water Facilities program. When the money became available, there was several things I was working against to convince 'em to take that program out, and one was that they had no money; second, that they had not seen this kind of an operation before and it was entirely new and strange to them. So it was a little hard to convince 'em that this should be done.

[I'd flown over the area.] Before we organized in the district, the Soil Conservation Service brought in some planes. They landed in Moapa, I think—airfield in Moapa—we flew over that to give us—and then, I don't know, I flew over there with someone else. I flew over there a couple of times. I was not a good map reader, but I liked to look at maps and I like to follow streams. I was interested in the water, and as I say, I'm not a geologist or a hydrologist. Anybody looking at it with any knowledge at all or little thinking about it, would see that this was happening. Actually, it's kind of an odd situation, you see. In the Meadow Valley Wash, you have springs at Delmue's, quite large springs—you have some smaller springs upstream but they're small. Then you have one fairly large one at Delmue's. Then in what they call the Canyon, just above the above Panaca there, there's a big stream, There's a big spring that comes out and it dissipates itself as it goes down and disappears pretty near, before it gets into Panaca Valley.

Then there's a big spring at Panaca which flows about six second feet and this was the big water supply. Then there was the hot springs at Caliente; they were small. And then when you went down in that main Meadow Valley Wash, below Caliente, the water would rise, not in any big spring or anything, but there would be a raise in water and it would flow for probably a mile or two and then it would disappear and then you go down for two or three miles and find water again and it'd disappear. This is in the summer, you see. So it was kind of an intermittent stream. And then when you went down to the Upper Muddy, on the upper ranch there, there was several large hot springs there. Which indicated it was a continuous flow of water from one end to the other of that valley. You had the same situation in the White River, the springs at Preston and Lund. And then down at the Whipple ranch, and then from there it drops into Pahrangat Valley and you have Hiko Springs, Crystal Springs and several other springs in there—Ash Springs and several other of those springs—and then it disappears again. And finally, it reappears, some of it, down below Maynard Lake and then flows down into the Upper Muddy which comes out at the big ranch at the Upper Muddy and then flows into the Moapa Valley.

We agreed that we should talk a little bit about REA. This was in a period of about 1936 to about 1938. And at that time, there was no local power as such in Lincoln County. They had little power plants in both Pioche and Panaca and Caliente, but they were locally-produced power. And when the mines did the production there from steam, they kept power for the town 'til about ten, ten-thirty. When they would go off the air, as it were, when they stopped producing power, why, the lights would blink twice and then they gave you about ten minutes to either get another—

light, kerosene lamp, or a gas lamp—and then power would be turned off. And so, the mines did not have enough power to really do the mining that was necessary; to do the mining, they needed more power for the mining industries.

So I think it was 1937, that they started in and they organized the Lincoln County Power District Number One. It constituted the area around Pioche. They did not include the whole county, which was kind of unfortunate in a way. They did it under state law. There was a REA act, federal act, that they could have gotten money, but they organized the farm district and then floated bonds, or in some way they raised the money to finance the line from Hoover Dam to Pioche.

It happened to be that they started, I think, in the fall. They gave the contract to a company that came from Texas, if I remember right. And this company had never built power lines in the West. They'd been in Texas and they came up there and they had some good ideas, such as drills or posthole diggers that were very good where there was soil, but they had to go across a lot of mountains in which it was solid rock, practically. So they weren't very successful. And they started the contract in the fall and they hired quite a few local inspectors—local men—but they brought in their main crew. And they started in and finally, they got about halfway through the job and they went bankrupt. And the local power district had to complete the project. And it happened to be, I think it was '37 that they started in, and the winter of '37 and '38 was very severe, '38 particularly. The engineer that was representing the federal government, they had federal funds in there. A fellow by the name of Crozier—he's retired from some big company in California. He came up there, and in the fall he asked me about the weather conditions, and being a greenhorn,

or a newcomer—I'd only been there three or four years—I said, "Oh, we have a little bit of winter, but only three or four weeks at the very most, and it's so—snow melts and we don't have tough winters."

Well, it happened to be that the storms started on the 24th of December, if I remember right, and continued for two or three weeks, piled up a foot, foot and a half, even two feet of snow. And it got terrifically cool. I remember one day (it was on the 11th of January, in fact), I went down to Caliente, and it was eleven o'clock and I went up to the post office and they had a thermometer on the outside there, and it registered eleven below zero—eleven, eleven, and eleven.

It stopped snowing, but they had terrific winds and it drifted that snow and—this was very difficult—it killed a lot of stock. It was very cold. In fact, the matter is, at one of the mines east and south of Pahranaagat Valley, a party was locked in there and one of the people started to walk out and died of a heart attack, I presume trying to walk out. The road was blocked and they had to organize quite a rescue operation to get those people out of that mine. And as I say, a lot of stock died; a severe winter.

The part that I played in that was that they wanted an estimate of power. It was trying to justify any amount of power that they used. And they asked me if I would make some recommendations or put down what I thought was the amount of land that could be irrigated with those waters. So just using maps and knowing the country, I suggested certain areas and made an estimate on the amount of land that could be put into cultivation. And those records are long gone, but I was fortunate that my guesses weren't too far wrong, because at Panaca where I recommended that a considerable amount of land could be put into cultivation, and

at Wilson Creek another place where there, I thought, would be water and suitable for cultivation, and in the Rose Valley-Eagle Valley area, that they could be pumping (and it has happened there's water there, and it's close enough to the surface). And the power was so cheap—it was five mills per kilowatt hour, which gave 'em very cheap power. I think I covered where the rest of it was done.

Now, the other part that I played in that—. Mr. Crozier, after he had finished for the power district in Pioche, went to work as a district or project engineer for the PEA that was organized in Overton and Moapa Valley, that area. Pahrnagat Valley finally organized Alamo Power District Number Two in the town of Alamo, and they were able to run a line there. But there was no way to cover the rest of the valley. And I made survey after survey of the power needs, and people wanted it, but we just couldn't come up with enough power use to get PEA funds. And they didn't get PEA funds until years later when the power line was extended into Tempiute area for mining. And then they were able to get power into those branches in Pahrnagat Valley, which is a blessing for all that area.

The power lines were designed and built to serve the mines of the area. And no provisions were made to serve the farms that were in that area. So another part that I played in there was getting power to Rose Valley, Eagle Valley and people in that area. And I worked on it for a long time. And there was a need there, but the people had to put up the money themselves. They couldn't borrow any money. So I never could get them into any kind of an organization, they just could not go in for any kind of a formal organization. They didn't organize, but they agreed that they should each pay for given amount of money. And in order to build the line over there, they had to do some of their own purchasing. They kind

of appointed the chairman and supervisors, and I begged 'em to get some good power poles which would have served for a number of years without rotting. The cost, I think, if I remember right, it was about thirteen dollars, or fourteen dollars a pole and they felt this was too much. So they went over to Cedar City [Utah] and got some lodgepole pines that cost about five and a half, six dollars a pole, and they brought and strung those out. Then I tried to get 'em to put two-cycle power in there, which needs wires in, and they just didn't see that this was necessary. They said, "Well, all we need is lights." So, they put up only two wires, and this, of course, didn't fit in with any large motors or anything, but it was the best I could do [laughing]. And we finally get down to single-phase line on very poor poles, but we did get them served. And I guess they're still operating the same organization that they did.

It wasn't three years before they had to go back and butt those poles with cedar or better materials, so they wouldn't rot. And they were then complaining that one light in the kitchen wasn't enough and they wanted to get refrigerators and everything that goes with it. And they couldn't do it, except get 'em 'specially built or special motors for 'em and this was a handicap to 'em. But we did get 'em lights.

Well, it was very difficult to get even tins small amount of money out of 'em. Now some of 'em were financially well off, some of the larger ones, and some of 'em didn't have the finances. But we could have got the money from a bank, to finance what they couldn't. The district, by this time, was a little bit more humane, and would have advanced money. The cost for each one was very small, because they did a lot of the work themselves. But they put up all kinds of arguments that they didn't need this extra power and all they

wanted was lights. And I pointed out that what, in effect, they went into was kind of a limited partnership, that if the line broke down and somebody was electrocuted, why, they might all be held jointly responsible—individually and jointly responsible. But they wouldn't respond to this. They just says, "There's nothing going to happen and this is what we're goin' to have." And there was just no breaking through.

Now, the unfortunate thing—. I worked with 'em because they were all very good friends of mine, they were fine people. But they had lived without lights and they were kind of out in the country, and they just—they were very tight, they just didn't want to spend the money. Even those that had it, they just didn't see, they couldn't see the benefits of having a good line, and that provided them with the power they needed and provided for future expansion. I tried to explain to them that there were some areas that they could pump, when they couldn't see they couldn't use large pumps with the single phase. It handicapped 'em later. But this was what they wanted, and this is what they got.

LIVESTOCK

[I will.] describe the corn-hog program. That was part of the Agricultural Adjustment Act of 1933, if I remember right. The intent behind it was to reduce the number of hogs and the acres of corn that were grown, along with the wheat and cotton and tobacco and peanuts. But in Nevada, we were only concerned with the corn and hog program; that is, the two items. That it consisted of [was] for the pledge to reduce the acreage planted to corn, there was a payment made. It actually amounted to a subsidy. I can't remember the details of the hog program, but I think it was much the same, that you bred less sows and

produced less pork. There was a subsidy made on all those that were produced. So this is about what it amounted to.

It was just an attempt to reduce over-production. In all commodities, we just had too much, [and] there was no foreign market. We had been through a severe depression, there was no foreign market and no consumption. We had a lesser population and the production was real high. There was just no market for it. It was a very depressed market.

As an example, the price of beef. In 1934, just before I left the ranch, we had about fifteen or twenty steers— they were young steers, about two years old—in the corrals that we had fed to what I would think was probably too good [grade]. We'd fed them all winter, some hay and some grain. Nevada Packing bought those for five cents a pound on most of 'em , and I think it was four seventy-five on two head that were a little bit thinner. And cattle were selling fifteen, twenty dollars a head, milk cows twenty, twenty-five dollars for a good milk cow. Hay was selling about four or five dollars a ton in the stack. Prices of this range, you see, there was just no money. This was an attempt to reduce the total production and try to raise prices.

Along with the Agricultural Adjustment Act, somewheres in it there were provisions made for drought relief. We'd had a very severe drought in 1931, and numbers of cattle had actually grown on the range because there was no sale for 'em . Same way with sheep and other products, so that we came to 1934 and the drought hit the whole state of Nevada. And we were losing cattle on the range and the ranges were deteriorating badly. So again, it was under the AAA the funds were made available on July the first, 1934, for the purchase of cattle that were in distress.

Again, we had meetings, community meetings at which the program was explained.

The program was put into effect by appointing local committees to act as, actually, appraisers. And then the assistant agent, which was myself, would act as the agent of the U. S. Department of Agriculture under the AAA program. And we had veterinaries to check, the government sent in veterinaries to check the health of the animals that were purchased. And then they had commodity programs that received the cattle purchased.

So we went through the communities starting about July the first or second or third—in there somewhere. We had a series of meetings. And this affected both cattle and sheep. In Lincoln and Clark counties, there were practically no sheep—that is, summer sheep—but there were a lot of cattle. Since there had been no market and the cattle were in poor shape, somewhere about the end of July, we began shipping cattle out. We would arrange for the cattlemen in a certain community to have their cattle rounded up, those that they wish to sell. Then I would bring in the appraiser and the veterinarian. The veterinarian would check them for health, then the appraiser (which was a local man) would put a price on the cattle. I think it was five dollars for calves and I think it was ten dollars for yearlings and fifteen dollars for two-year-olds—and this was either heifers or steers—and twenty dollars for grown cattle and bulls. And since the price was so awfully low, they had to be awfully poor cattle not to get the top price on 'em. And it still was very low, but this was an attempt to salvage something out of the possible losses that would occur on the range.

In the course of the summer, if my figures are right, we shipped 3,775 head, from Lincoln County. We shipped very few from Clark County; not very many cattle shipped from Clark County. But this is kind of interesting because later, I checked on the tax

rolls and there were only 3300 head of cattle on the tax rolls [laughing] I So we'd shipped four hundred head more than were on the tax rolls. I figured that we'd still left about 13,- or 14,000 head of cattle on the ranges!*

We only shipped one little bunch of sheep and that was quite a story on that. The sheep were in Lincoln County, but we had to ship them out of Moapa, which is in Clark County. So I took Mr. Thiriot, who was our commitment on sheep, and Ralph Olinghouse, who was accepting them for surplus commodities, I think—one of the agencies. We had to mouth them; that is, by *mouth*ing them, I mean tell the ages by opening their mouths and seeing if they're broken mouths or young or old ewes. We were supposed to actually slaughter all the old ones and only ship the ones that were suitable. This fellow that we were buying from was a fellow by the name of [Jimmy] Wilson. Mr. Wilson had been a mule trader and a horse buyer in the country, but he had seen a little bit of hard times and he'd taken some mules down into Arizona to trade to the Navajo Indians. When he got down there, they wouldn't buy his mules, but they traded him some Navajo sheep. So he had about three hundred or three hundred fifty, maybe four hundred head of Navajo sheep in that area. The drought was terrible and the water was scarce. They were in very poor shape. Physically, they were very thin. He wanted to ship the whole bunch, so we agreed to buy those that were fit.

He had them in the corrals there at Moapa and we got down there in the afternoon. Incidentally, we got there as early as we could because the traveling distances in that country

*Tax assessors customarily “missed” many animals they might otherwise have counted for tax purposes.

are pretty far. So I had ordered a car, double-deck car. There was no station there; there was just a train came by and stopped and you had to order at Caliente and then load. The train crew would stop and you'd load the cattle and ship them out. We got down there and we had to mouth these sheep and examine 'em .

So we started in and it was a hot day, very hot. This was, I think, September and it was very hot. It began to look like we weren't going to make the deadline and the train was goin' to come before we were through mouthing 'em . Mr. Thiriot was a little bit slow, so I said, "Just how do you mouth these sheep?" And he showed me and I said, "I'm a sheep-mouther now" [laughing]. I began mouthing sheep with the rest of 'em . We were about half through, I looked around, and they had crowded in one of the chutes. They jumped up on each other till they were suffocating. I looked around and hollered that they were having troubles and we waded in and threw them out as best we could and got 'em uncovered, but we had lost about seventy or eighty head. They smothered on us. I think it was ninety head actually that had smothered on us. We looked over the mess that we had and Mr. Wilson was just—his wife was there; and they were in pretty poor shape. And he says, "I just—" He was supposed to skin 'em , and I'd take the skins, you see, the pelts. Well, he says, "I just can't do it," he says, "If I got to pelt the rest of 'em , I just can't do it."

And I says, "Well, can you pelt the ones that are dead?"

And he says, "Well, we'll try that."

And I says, "All right, the sheep are mouthed, all the rest of 'em have good mouths and we're goin' to ship all the rest of em. "

And about that time, the train came down, and what could walk, we walked 'em into the cars and shipped 'em out.

Mr. Wilson did pelt those sheep. And I came by there, oh, about a month later or so and picked up the pelts. He had them in bundles and I put 'em in the back of the car, and on the car, and around the car and I hauled 'em into Caliente and stored 'em — UP had a kind of a warehouse-upstairs in a warehouse. And I had to climb a ladder—just an outside door to it—and I climbed that ladder, hoisted those sheep pelts up there and kept 'em there for a couple of years. Finally, they found out that they wanted 'em and I had to ship 'em . I'm pretty sure that no county agent has had that kind of experience, because you had to be young and you had to be strong [laughing] and industrious to get that done. But it was kind of funny.

I was the Department of Agriculture, practically, in the county. They couldn't call Reno, they couldn't call the central office. There was nobody you could confer with. If you sent a wire, you probably got an answer in two or three days, and if you wrote a letter, if you got a letter back in a week, you were pretty lucky. So you had to do things on the spur of the moment, as best you could. And I had no experience. I guess I did all right 'cause they never fired me. Oh, they told me about it if I did wrong. The ranchers and the farmers were pleased with me, so this is what mattered. I got by. That's one of the little experiences that I had.

Another experience that I had was on cattle. That particular summer was hot and dry. And the roads—not very many of 'em were paved in that area at that time—they were pretty rough and the trucks weren't as good as they are now— a lot of those ranchers trucked those cattle in, many of 'em drove 'em in, but a lot of 'em trucked 'em in, some of 'em trucked 'em in. They'd come in overloaded and over rough roads, and a lot of the cattle'd be down. When we'd unload 'em , some of

'em were dead and some of 'em were in pretty rough shape.

One day, one of the ranchers from the Pahranaagat brought in a couple of truck loads. In the bunch was, I think, a couple of dead ones, and four or five—five, I think—that were pretty well crippled up. Well, when they come in that condition you have to dispose of 'em . But it was very late, it was already evening; it was already dark in fact. So I put 'em in the corral and I said, "Well, I'll borrow a gun and shoot 'em in the morning and have the railroad bury 'em ." But in the meantime, I had made out the forms and reported so many cattle that had come in for shipment. I think I reported seven were dead. (Actually, there were only two; I had intended to kill the other five the next morning.)

But I went out the next morning and they had rested for the night and they were gettin' around in pretty good shape, and they looked awfully good to me and I said, "Why kill the poor things? I'm going to ship 'em " [laughing]. So I shipped 'em . When I shipped 'em , I reported five [more] cattle shipped than were received. So I think that caused a lot of trouble in the State offices.

[Laughing] I had a hard time explaining that one, but I didn't know what else to do; there was nobody to advise me. I had the cattle that couldn't get up the night before—were out and running around. I had a gun, but I wasn't going to start shooting in the stockyards. So I just loaded 'em on the next car that came by [laughing].

The first few loads that we sent out, why, I had to act as the agent, and I had to fill out the forms, and I had to gather up the veterinaries and the committeemen to appraise 'em , and then I had to turn around and act as the receiver for, I think it was the surplus commodity organization. I acted as the whole—for all of 'em . The first few loads

that came in there, they had not instructed me on what to do with a bunch of cattle that comes in hungry and tired and had to be held for two or three days. I knew that they had to be fed, but they hadn't instructed me on how this was going to be done. So I knew enough about cattle that they had to be fed, so I just—the man was tending the yards, I said, "Just feed 'em ," I said, "I don't know how we'll get the hay paid for, but—" So he fed 'em and then we had to work out forms, other forms for paying him for feeding the cattle. But I didn't know how else to do it; it was the natural thing to do.

I had several experiences that were a little bit rough on me at the time. I didn't know how to handle 'em . They sent down a veterinarian and he had a liking for liquor. He got to drinking pretty bad, and he was causing me a little trouble, and fortunately, his supervisor came in when he was in a dead stupor and moved him out. Otherwise, I would've had more trouble. But that was kind of a little experience to go through when you have a bunch of cattle to be inspected—the veterinarian's laying drunk in the hotel and you can't get goin' [laughing].

Then they sent in another veterinarian. He came from San Francisco. He was about fifty or fifty-five years old, a little bit on the stout side. And he had a great liking for women. And we went out to the ranches and if there were any females on the ranches, why, there was quite a little job to drag him away from the woman. He had another bad habit. He always wanted to drive his car. I guess that was because he was getting mileage [payments] from it. He had an old Buick. During the day, when we went out in the morning, it wasn't so bad because even on the dirt roads, he managed to make twenty-five or thirty or forty miles an hour, but he was awful slow. After the sun went down, he was practically

impossible because the fastest you could get him out was about fifteen miles an hour. Since he insisted on driving his own car, it was a little bit hard to get away from him, you know. So I found myself, quite a few nights, coming in at one and two o'clock in the morning from out in the country, and going into Caliente gettin' him to settle down, and goin' to my room and finishing out the papers.

We had to have several forms that we had to fill out; they all had to be quintuplets, and nothing less than three, and there could be no errors. I had no secretary and no office; I had my room and I had a little desk in my room and the rest of it, I carried it in my car. I'm a notoriously poor writer and a notoriously poor form-filler. So since everything had to be letter perfect, I found myself getting two forms, making out a rough draft on one of 'em and getting a clear form and having all the committeemen and owners and so forth sign, and then copying over. That didn't save me entirely from all of the trouble because occasionally I would make a error in copying. Well, this meant making up an entirely new form and then going back and getting the committeemen to sign it. Sometimes that was quite a distance. So whenever there was an error, you could initial everybody that signed, you could initial, so I became quite proficient in applying initials to errors [laughing]; I never was caught at it. I couldn't see traveling fifty and sixty miles to get either a signature or initial on a piece of paper.

It was a lot of fun. I met all of the cattlemen and sheepmen in that area. I learned a lot and fortunately I had a background.

Oh, there was one other incident that was quite amusing to me. We had to brand the cattle. Branding them consisted of marking them with a green paint on either the left side or right side (I don't know which side it was). And you made a dauber which consisted of a

pole wrapped with a burlap sack on the end and then you daubed the sack into the paint and you daubed the cattle. Well, this sounds like it's easy in a big corral, but it's a little hard to run 'em down—they're wild.

So we devised a method of doing it. I had my friend Billy Warren, who was an old time cattleman in that area and he was an appraiser; he was very excellent at branding. We'd run the cattle by him in the runways in the stock yards and he'd stand in the middle, just the one side of the middle so that they go to the side that he wanted to brand. And he'd have his dauber ready and as the cattle came by, he would hit 'em .

I don't know if you know anything about cattle, but these wild cattle, they generally were horned and they were pretty snorty. They'd come running down the middle of the runway and they would come up within one jump of Billy, and then they would turn and jump to the side that he wanted to him. And when they jumped, he'd hit 'em with the daub. He was the only man that could do that, that had the nerve enough to stand in front of 'em . I tried it, but about the third or fourth one, I would shrink. And if you ran or anything, there's a lot of 'em that would take you, you see. He would just—he had enough nerve that he'd just stand there. He says, "They'll never hit you," and they never did. He probably daubed probably twenty-five hundreds or three thousand head of the ones we shipped. Not one of them ever did hit him. But I couldn't quite pull that; that was one that I couldn't quite pull.

We were just discussing the drought and the effect it had on the country. I actually think that, well, there were several things that played in creating the attitude and the depressive atmosphere and the beaten outlook that the ranchers and farmers and everybody had in that southern—well, it was

all over Nevada, but it was particularly bad in that particular section of Lincoln and Clark counties. First there was no employment; the mines were shut down. And there was a depression on, no jobs. And then along with the drought, there was no price on the cattle. Some of those ranchers had held their cattle, steers, for two and three years, trying to either sell them or get a better price.

I remember very distinctly that in 1934, we were shipping cattle and there were some buyers came in there. One buyer came in from Arizona and he bought all of the steers that were in Lincoln County there. I know he must have bought, oh, two or three thousand head of steers. He selected. Most of 'em were three and four years old; in those days they kept 'em for three and four years old. But I remember that he cut out seventy head of steers that were older, or off colored, or what-have-you. He bought those for twenty dollars a head. I can remember one steer that belonged to a fellow named Bradshaw, down the canyon. He must have been, oh, eight, ten years old because he stuck out way above the other steers there. We actually put him on the scale and he weighed over fifteen hundred pounds. He was thin; he was just a monster, but the buyer didn't want him. I think, if I'm not mistaken they paid five cents a pound for those steers. He moved those into Arizona and I understand he sold those in, oh, the following spring. He bought them in the fall and sold 'em the following spring for about eight and a quarter, eight and a half cents a pound. The price had risen—remember I told you that the first part of 1934, we had sold fat steers for five cents a pound. He had bought thin steers down there for five cents a pound and the general price went up to eight, eight and a half cents a pound, for fat steers. So that was quite an improvement.

The program did two or three things that were good for the community and probably

might have also hurt the ranchers. One thing it did, it brought cattle off the ranges, it saved some of 'em from actually dying out there, it helped conserve the range a little bit because it was really very badly beaten, and it brought a little money in the community even if it was low price.

Now the bad thing about it is, from the fall of 1934 till the spring of 1935, the price of cattle had gone up. You see, it had gained in price probably two or three cents a pound. So that was a loss to the ranchers there. Those that could hold on, you see, had made a profit by just holding on. But it was a very bad—. I guess there was no other way to handle it. At least it was an attempt to relieve, just a stopgap situation.

Right after that, the rains started to come. Down there, generally in that area, we get the rains in the fall, in late summer, from the middle of July to late September. And the rains did come and it did help. I think two or three years after that, we had a heavy winter and a good snowfall and rainfall in 1937 and '38, the whole country was green.

In that country down there, there's occasionally years—I don't know what causes it, brings it on—the loco weed come on very thick. During that spring, loco weed came on and then we had a drought—they had a dry year in, I think, in '38 or '39 in the summer—and there were thousands and thousands of cattle lost from loco weed. That was a setback for the cattlemen there. In those days in that area, cattle ran out practically one hundred percent. And there was no backup hay or forage for them to bring it on the ranch and hold 'em. So being dependent on the range, whenever a drought hit or loco weed or some other catastrophe that happened on the range, why, it was immediately felt by the livestock men.

Along about that time, the other programs started coming in. Soil conservation programs

started to come in. We can cover 'em in a little different subject. We started about that time to organize for soil conservation.

The economic conditions in all of Nevada, but in that southeastern part of Nevada were particularly bad. As I said before, the mines were shut down, there was no jobs, cattle prices were low, there was just no money in the area. Most of 'em were small operators. There were several large operators, but there were a lot of small operators. And there were a few men there that had money and would lend it to those that were in distress, the ranchers that were in distress, that they felt had enough collateral to warrant lending them some money. One of 'em (I probably shouldn't mention his name, but—) his name was (Charlie) Dinimick. He has quite a history; he used to be a cattleman. There is a big long history that I could give on him, too, but needless to go into that. He was in there and he was lending money. He used to lend money on an open note to cattlemen that he knew. The interest was one percent per month. If they didn't come up, of course, he foreclosed. Most of 'em, he had 'em, he forced 'em to sell cattle, and so on and so forth. This was very rough.

We had another incident there of a rancher that was just out of Caliente, actually a dairyman, and he had a few cattle on the outside range. He had gone into sheep and the ranges went bad and the price of sheep went out and he'd lost a considerable amount of money. And he owed money to another rancher there. I was trying to advise him on dairying, I was trying to encourage him to build a barn and get a little better, more sanitary conditions and increase his production a little bit. He listened to me all one afternoon and then he says, "Well, I just can't do it," he says. And then he said, "I'll tell you my story," and he told me his story about his troubles with the cattle and sheep, how he

was indebted, and how much interest he was paying. He was paying ten percent interest to his neighbor and he said he had been in debt to him for, I don't know how many years. He says, "If I live long enough, in (so many years) I will be paid off," and he says, "I'm living just to pay that debt off. He was supposed to be a friend but," he called him a name and he says, "to pay him off—."

I says, "Well how can you do this?"

And he says, "Well, we sell everything we can, and what we can't sell, we eat." That's the way he paid it off.

It was about the most inefficient operation that I had ever witnessed. He had supposedly Holstein cows, but they were pretty near any color. Then he had some short horns, and he had some Jerseys, and some more kinds. And he had a corral. And he and his wife and his son would go out to milk the cows, and they strapped a stool to themselves and then they had a bucket. They had a bunch of calves out in a little corral and they let a calf out and both of 'em made a run for the cow, and the calf would get on one side and they'd get on the other, they'd milk till the calf got his share and they'd run the calf back in. Well, I imagine about half a gallon to the cow was about all they got out of her. It was quite unsanitary. Then for cooling, they put the milk in ten-gallon cans and they had a spring that they would lower the cans into and the spring ran—oh, it was a pretty cool spring, it ran about fifty degrees. And then they bottled the milk by hand, and then they would load it into a little pickup and he would deliver it in town. And this was the general operation that was carried on. And everybody swore by his milk, that it was excellent milk. And I guess nobody died from it, but this was the way it operated.

I looked at their operation. The type of feed was very poor. They had rather poor

pasture and they had wild hay. And they used to put it up by bunching it, by mowing it and raking it, bunching it, then pitching it by hand and then hoisting it up on a stack with a derrick and a Jackson fork. This was about as poor a way, expensive a way of putting up hay as you can imagine. He, the poor little old fellow managed to pay his neighbor off, and when I left there he was still in the milk business. Of course he's since gone to his reward, but I know that he and his wife labored very, very hard.

I look back on the living conditions and the working conditions of those people; it was very harsh. They had no money, for one thing and they—I'll just describe the condition that was down on what they call the Wash, the Meadow Valley Wash, south of Caliente. There were eight or ten so-called ranches down there, just small places. All of 'em had a few head of livestock. And they were so blamed poor and the resources weren't there. For the little resource that there was, the range, or the water, or the—they just would get very mad and mean with each other. As an example, I remember one place down there where they had quite a large area, large field, that was just brush, but it was fenced off. They were fighting with their neighbors. If a bunch of cattle came in there and they were inside where there was no feed, they would lock the gate. There was water there but there was no feed. And they would suffer from hunger. Now if the neighbor that didn't like 'em came along and the cattle were out, he'd again close the gate. This meant that the cattle had the range out there but no water. And they suffered. I saw once an old man that lived down there. He's a fine old man, too. And he had a team of mules, a fine team of mules and he had kind of a sled that he drug around. He was pulling down these big barrel cactuses, he threw a chain around

'em and pulled 'em over, and gathered some brush and he'd burn the spikes off of 'em. And then he had a saw and a hatchet, and he'd cut the outer pulp off of 'em and throw it into the sled and haul it up to his corral where he was feeding about twenty-five or thirty head of cows, cattle that were in very bad shape because we were in drought. And this was the only feed that he could furnish them with, to carry them through.

I saw families down there that just pulled on your heartstrings. But it was a job that I had to do and I didn't have any money myself, or I would have tried to help 'em as best I could. But they managed to pull through there.

We pulled another program down there which I wonder sometimes if it was good or bad. That area, that Meadow Valley Wash, was very subject to floods. And they were having such a tough struggle down there that I could see no future to it for 'em. So I wrote to Mr. Creel and asked him if there was any program—I had heard about the program in the Midwest where they were buying out ranches in distressed areas, and he inquired and actually got a program started. They turned it over to the Soil Conservation Service, I think, to appraise the ranches. Then a lot of those ranches were sold, a lot of the ranches that were just little homesteads were sold back to the government. This may have been a little bad because some more land was taken off of the tax rolls—didn't pay any taxes actually, but it was land that was privately owned. Since then, the condition has changed so that there's a scarcity of privately owned ground. Since Lincoln County is eighty-seven or eighty-eight percent, no, I guess it's about ninety percent owned—ninety or ninety-two—by the government anyway so this didn't leave very much private land. There was a lot of poor people.

CROPPING PRACTICES, INTRODUCTION OF HYBRIDS

We'll talk a little bit about crops and I'll cover probably in two sections, one for southeastern Nevada and particularly in the Lincoln and Clark county areas, then we'll probably cover western Nevada a little bit. I'll talk a little bit about Pahrnagat Valley. As most everybody knows, Pahrnagat Valley, was settled by the outlaws; Butch Cassidy, that was one of his hang-outs. He wasn't the only outlaw in there. There was quite a few other ones who were just about as bad. And there was quite a few killings and local wars there. And one of the early settlers in there was Mr. Gear. He and his wife were educated in the East, and I think they came out and they did a little trucking, hauling in Virginia City. I used to laugh about it when they told me that he started out from Virginia City, just wanting someplace to settle. They said something about liquor, and I said, "Oh, yeah, he—" and this is just a story, but the way I make it up, he brought along plenty of liquor and he sold it to the Indians. And when he got out to Pahrnagat Valley, he run out of liquor and he found the Indians were pretty weak and so he settled in Pahrnagat Valley. But anyhow, he was quite a character in that area. Many of the stories go that he got established and wanted to more or less control the whole area. In those days, there was quite a bit of feuding and he was smart enough that when he wanted to get rid of somebody, he imported a gunman, and he had his enemies gunned down. Then the gunman of course, hung around and when he got obnoxious why, he sent for another gunman and he gunned the first gunman down and he stuck around and went through the same cycle. Probably I shouldn't say anything about it, but this is the

Gear family there. But anyhow, the climatic conditions were favorable to a little different cropping system. I found it different when I went down there and here they were growing corn, which I was not used to except for sweet corn. But here they were growing corn, field corn, and they had developed a particular kind of a variety in that valley and they just passed it from one to the other. This was about 1936 or '37, when the hybrid corns first were developed in the East. So I looked up in the advertising—I saw an advertisement in one of the magazines and so I sat me down and wrote a letter to the seed company in Bloomington, Illinois. And I sent for three different varieties of hybrid, and I sent for ten pounds of each. Incidentally, I paid for those out of my own pocket. I wasn't smart enough to really put it on the budget—we didn't have very much budget. But anyhow, I got three, thirty pounds of corn. And I went down to Mr. Bastian, who had the upper ranch in the Pahrnagat Valley and I gave him instructions that he was to plant this. He had a big field there and just [to] put in the ten pounds and plant it as far as it would go and then skip several rows and then plant his other ten pounds and then skip again and then plant—. It was not an experiment; it was actually a field test. So he did this for me, and I kept a running account of it during the summer.

When it started to come up, it came up pretty uniform but it didn't look so good as compared to the local. The local corn was much taller and bigger stalks, and Mr. Bastian says, "Well, I don't think it's goin' to do as good."

So I said, "Well, we'll just have to check it out in the fall."

So along about when it started to put on ears, why, he came to me and he says, "Well, I noticed an odd thing," he said, "all the ears

are at the even height, which makes it a lot easier to pick.”

In the fall when the frost came, why, he said, “I looked at the ears, but the local corn has much bigger ears and I think it’s better.”

I said, “Well, I’d like to check it out anyhow.” So I went to Caliente and got my friend Albert Sanders, who was the agronomist for the Soil Conservation Service there. We took a tape line and went down to Pahrnagat and then we went out in the middle of the field and we measured a length of the rows—I think we took a hundred-foot section of the row—and picked three rows out of each one and put ‘em in bushels. Then we picked an equal number of local corn. While the local corn was much taller, a lot of it was down, and there was many more suckers, and they weren’t as even. And when we got through picking, why, all of the three hybrids, there was more bushels of corn, ear corn. So Mr. Bastian then became very interested and he says, “Well, I have a sheller.”

So we went over and we shelled the corn. And the difference was so much more in favor of the hybrids, and this one particular hybrid showed up so much better than actually we had estimated, that there was between thirty and forty percent more corn. Now, the hybrids were a deeper kernel, a better-formed kernel, and the cob was very small, where the local corn had a tremendously big cob and a very shallow kernel. It just took three years to wipe out the local corn and replace it with hybrid. And I didn’t have to do any selling at all on it. They just wanted to know the address on it and the particular variety of hybrid that it was. And I had to pass out a little information of that kind, but that was the way it was done. And in three years, all the local corn was gone. And they used that same variety for over twenty years, about twenty-five years, until they stopped breeding

that particular variety. And then they went to different varieties. We introduced other crops, other varieties, but this was the most spectacular one.

There were also many attempts made by the 3-C camps and the SCS technicians to revegetate some of the outside ranges. There was very little known of grasses that would grow, or shrubs, or how to revegetate the range. So there was really a trial and error method made. As an example, we had crested wheat grass [which] had just been coming to some prominence in the Midwest and in other areas. It was tried there.

We seeded and scattered seeds without removing any of the native vegetation that was there. In other words, we planted out in sage brush and in small areas, test plots, and one of two things happened. Either the native plants just wouldn’t let the crested wheat grow, or the rodents and rabbits and what-have-you ate up the little seedlings that we had planted out there, so we had not figured on that. It was nobody’s fault in particular—nobody knew how to do it.

Since that time, in the upper, northern part of Lincoln County, in the neighborhood of Geyser ranch, they have established some fields there. Twenty-five or thirty thousand acres have been seeded to crested wheat grass, which was much superior to the native vegetation. I think this was done in cooperation with the Bureau of Land Management and the local grazers. It’s been fenced and crossfenced, so that it can be much better utilized as range and controlled; the cattle can be controlled on the range. And this has been one of the big factors why they have been able to hold, or probably increase the cattle on the ranges.

But in those days, nobody knew how to do that, so that there was a lot of wasted time there. I guess you have to go through those

trial and error methods—we had never seen it. The rainfall was very low; we didn't know what type of equipment; there was no equipment developed for it. Now they have the equipment; plows and the seeders and what-have-you that you can do it. This was done generally, I think, by the Bureau of Land Management.

PEST CONTROL

When I went to work for the Extension Service, there was quite a big insect problem—of course, they knew a lot about insects and the destruction they caused, but there wasn't too much remedial measures they could take. And at that time, we had the alfalfa weevil come into the state. I think it came in about 1924, as far as they can trace it. I think it came into the race track down here in Reno. But eventually, it spread throughout the state; it eventually got into Lincoln County. The state Department of Agriculture had, in order to try to control it, asked certain restrictions that you couldn't ship hay from an area that was infected with weevil into an area that was clean.

Well, since Lincoln County produced a considerable amount of alfalfa hay which was consumed in Clark County, there was fear that weevil would get into Clark County and they passed the regulation that they couldn't transport any baled hay into Clark County. This acted as an embargo, actually, on the products from Lincoln County. Hay was grown in—came from Lincoln County and there was no use for it there, but the people in Clark County were very adamant, and you can see why, that this was wrong.

So I think it was about in 1935, they sent an entomologist in to determine if there were weevil in Clark and Lincoln Counties. So as assistant agent, I was assigned the task of going with him. He gave me a net, and I helped him—this was the first time I had

done it—we swept the alfalfa fields in Panaca, Caliente, and Pahrnagat, and then we moved on to the Upper Muddy into Moapa Valley. Well, we found weevil in all of the areas, and we even found them in the Upper Muddy.

So the Farm Bureau again was trying—the Clark County Farm Bureau in this case was trying to protect two things. One of 'em, they were trying to protect the weevil from coming in—actually they were trying to protect the embargo, as I see it now, because it made for a little better price of hay in Clark County.

So they actually went in and bought the hay on one or two of the ranches there and had it raked and burned. We thought this would probably get rid of the weevil. It didn't, but it was one attempt to do it. Then we swept the fields again next year and we again found the weevil. Actually, the climatic conditions in Lincoln County were favorable to rather large amounts of weevil being produced in those fields, and in Clark County due to the heat—I think to the heat probably—it was just not conducive to large numbers of 'em. I don't think they ever had the problem there that they had in the rest of the state, but it'd served as an embargo, and kept the prices up of alfalfa hay in Clark County [laughs].

Occasionally we'd have outbreaks of grasshoppers in the Panaca area and the Geyser area in particular, Pony Springs area. Previously, the state Department of Agriculture had shipped a carload or two of bran, along with the necessary arsenic into Caliente and they broke out, I think, in the summer of 1935 or '36; '36, I think it was. We got those programs started, helped get those programs started. The Department of Agriculture sent one man down there to get us started and then I kind of supervised it.

I can remember one big outbreak of grasshoppers at the Geyser ranch. I went out

there and stayed, I think, about four or five days and we mixed bran and spread it from washtubs with our hands, our bare hands, sitting in the back of a pickup truck. I wasn't aware of how dangerous arsenic was, but at the end of four or five days my fingernails were so sore that I just couldn't touch 'em . This is one of the ways that it affects you. So I guess I've got quite a bit of arsenic in my system, and it didn't kill me. But we got rid of the grasshoppers.

You mentioned Mormon crickets. We didn't have them in southern Nevada; those were in central and northern Nevada, mostly. I remember in 1938, we went on a tour of Elko County, mostly Elko County. We were guests of the Forest Service. They wanted to show us the outstanding ranges, and everything north of Elko County. So we went on a tour for about three or four days.

I think we were on Gold Creek (I'm not exactly sure which creek it was) , but we dropped in, as I remember, in the morning. They had tents set up, and we put out our equipment, our bedrolls, and our suitcases and tents. We came back that evening, and our tents were just full of Mormon crickets—our bedrolls and everything else. And there were so many of the darn things that—they had tried to cross the creek and they drowned. There was just solid, so the live ones walked over a bridge of dead ones over the still waters and across the creek and run out. I remember the fences that they built—and then they had dropped holes kind of along the fence and they'd follow the fence and then drop into those holes and then they'd pour kerosene and burn 'em . This happened mostly northern Nevada, although I saw them—it seemed down at Fish Lake Valley they had some, but they weren't in my—I never fought those.

OUTSIDE AGENCIES

In 1935, I think, is when we started to help organize the grazing districts. And here again, we used the Extension Service and the Farm Bureau directors; Farm Bureau to get information to the livestock men and to get information from the Bureau of Land Management (they used to be called the Taylor Grazing Service). We arranged meetings, we took directors to the meetings, and the Farm Bureau paid their per diem, and the Extension agents provided the car. I went along and attended meetings in Denver, Salt Lake, Reno, Ely, Las Vegas. Where they had hearings, we testified, helped testify.

There's quite a little story on where the bombing range is now in northern Clark, southern Lincoln County. That area was considered to be too dry, and so few livestock on it that it wasn't profitable to organized a grazing district in that area. About that time, they were thinking about establishing in southern Nevada, around Las Vegas, the Nellis Air Base, and training pilots in bombing and strafing and other things. They were looking for a desert area and they made the request that either the area be placed in the district, or if the ranchers or farmers wanted to use that, that they lease under Section Fifteen, I think it was. And the ranchers turned down the district. So then the pressure started coming from the Air Force to make that into a bombing range.

We got involved in it through the Farm Bureau. When it looked like it was going to go through, they requested that I write a letter to—I don't know, I forget who it was written to, but it wound up in the Defense Department in Washington. And we asked that that be excluded, that that not be put in a bombing range. And I got about a four- or

five-page letter from either the Secretary of Defense or somebody from quite a ways up (I've lost it and I wished I had it), explaining very carefully why this area was needed as a bombing range. I put it in the files and I guess it's gone or buried, but it's about a five- or six-page letter that I guess I should have kept as a memento.

My working with the Forest Service was of a limited nature, simply because when I went to work in 1934 in southern Nevada, that was mostly Bureau of Land Management land; it was public domain. And I only ran into the Forest Service in the Charleston Mountains (Clark County) where they had forest rangers and that was in the Forest Service, and then some up in Ely and in that area where there was Forest Service grounds. You see, in Lincoln and most of Clark County there was no Forest Service *per se* and as a result I didn't have very much to do with it.

We did run into a little bit on the Forest Service on the Charleston Mountains. They had camps, 3-C camps up there, and they worked on a force there and we used the Charleston Mountains for a 4-H Club camp area. For about eight or ten years, we would bring groups of youngsters up there and entertain 'em and keep 'em at the Forest Service camps that they had in that area.

Later when I moved north again, I did come in contact some with the Forest Service but by this time, the organizations, while we didn't have a different purpose entirely, we just worked at different areas and I wasn't as close to the Forest Service as some of the other agents that worked when the Forest Service was established.

We were talking about the various organizations and the use of land. [In] park development, a lot of credit, of course, has to go to Colonel [Thomas W.] Miller who—. I

don't know exactly what his title was, but—he played a very important part in that whole southern—oh, for the park service, for the whole state. But he played a very important part in southern Nevada. At the time I was down there, they were acquiring the Kershaw Canyon for the Kershaw-[Ryan] park. I think that this was an abandoned ranch and a beautiful little canyon that was owned by Mr. Ryan, Jim Ryan. He turned that over to 'em after it was developed.

And they got the Cathedral Gorge designated as a state park. And this is quite a little area. There's a little history on the Cathedral Gorge. They had several plays, Passion Plays there, and I think there's a history on that. You might be able to dig it up from elsewhere. But they spent considerable time. I think they put it on twice. They had costumes, and practically everyone in the county participated, took parts in the Passion Plays. And I don't know who it was that came in there, that directed that. It was quite an event, just a big event for that area and for that period of time. I think that if somebody would have put that on and had of kept that up, you know, and it would be a big event for the whole state. And this was put on in Cathedral Gorge.

LINCOLN COUNTY FAMILIES AND SOCIETY

One of the outstanding features, I think, of extension work, Agriculture Extension work, is that it covered not only the crops or the land or the conservation, but it also worked with the family. And this was, I think, one of the outstanding [features]. It was total and should be right now; it shouldn't be fragmented when you work with a family. You could do this, because in those days, you had rural people and you had smaller communities and you

knew that individual and you knew the whole family life. If you really were doing a job, you got to know their finances and you got to know their marital status, if you want to put it that way, and you got to know their family life well. If you became part of the community and they trusted you, they came to you for all kinds of problems. It had some kind of solution, you didn't have a solution but you counseled—you did a lot of counseling. And fortunately, we had other tools to do it with.

We had the home agents, which, God bless 'em, they were very effective. In some areas we didn't have 'em. The primary purpose, of course, primary stress or primary focus was on crops and livestock, which meant finances. But we also had the family part of it, and this is where the home agent came in. So, we had the youth work, which was 4-H Club work, which touched on all the family life situation; and the finances and the whole thing. Then we have the home agents work with the housewives, and in the teaching of new products, how to use new products and how to provide a more balanced diet.

And one of the first things we used to always preach was the production of a garden, for the green vegetables and the vitamins and the use of milk. And maintaining of a family cow, and the use of, and the maintaining of a poultry flock. So, we covered all those things, and we gave recommendations on feeding cows and feeding chickens, and so on and so forth, and seeds for gardens and fertilizers, and so on and so forth. And this all played into a whole family life. Naturally, you couldn't separate it entirely. If you were close to your people and they confided to you, you acted as a counselor. Now, you can imagine me acting as a counselor! I was 25, 26, 27 years old and [laughs] I don't know what kind of a counselor I was, but I was sure pitchin' [laughing] And they asked you all kinds of questions in those days.

The finances was a terrible situation because you could go and make a recommendation, and I don't care how good it was, the family had no way of putting it into effect. So then you had to turn around and try to find some way to finance. We helped finance a lot of 'em through the Reconstruction—what was that name? They organized the Federal Land Bank. The Farm and Home Administration, that came into being. This was to finance the smaller operations that were shaky for the banks to take on. We worked closely with them. The Federal Land Bank, the Production Credit Associations came into being. None of these were handout programs and they had to be financially sound for the money to be loaned. And, I think, that this saved a lot of—well, it just helped tremendously, it just helped tremendously, to hold outfits together, to hold families together.

This financial aid took a different turn a little bit later on, when it went into welfare, this kind of thing, but in those days it was strictly a loan. It's hard to judge if it lost some of its impact, if it was responsible for probably eventually increasing the welfare load, but one thing it did, it relieved a lot of the suffering and it gave a lot of people a start.

Well, again, if you go back to forty or forty-five years, why, the facilities weren't there and naturally there were flies and insects, and diseases were probably more common in the rural areas than even in the cities and towns. So, this was part of our program also. At one time, we had this program (it was on a WPA or PWA), one of those where they sold 'em and gave 'em outhouses. You could see 'em scattered all over the community [laughs]. If you remember, in those days, the inside plumbing wasn't too popular or too plentiful in the outlying communities, simply because they didn't have the water, they had no water supply in the houses.

And this is one of the things we worked on, to try and get 'em water supplies, better wells, and water supplies of some kind, either by tank or by forced pressure. When that came in, you could put the inside plumbing in. But in the meantime, you had to go by this process where they had the two-holer, you might say, that was out in the back. This helped control disease and flies.

Well, you became more conscious of the breeding areas of flies, in particular; mosquitoes—and we did quite a bit to control those. For example, scattering of manure, and treating with oil or with something else of ponds and stuff that was near dwellings, drainage and this kind of thing that was effective in reducing the incidence of insects.

Talking about control of insects and improvement of living conditions, you had to really tackle it on several fronts. Sometimes you weren't conscious that you were doing this; it was just a by-product of something else you did. For example, if you were able to increase their income immediately, most of 'em responded with better housing, better water systems and this kind of situation, better clothing or more comfortable quarters inside, in their homes. Some of these, as I say, it just happened that you were doing something else and it had a favorable effect on the environment.

I'm thinking particularly of drainage. For example, you wouldn't drain a swamp or a slough around the house, just to get rid of the mosquitoes. You had to have a financial reason for doing it. When you put in a drain, and you drained the swamp or slough and then filled it up and used it for farming, you increased the income, you immediately eliminated many of the mosquitoes. So it made better living conditions for the family. And when you increased the income, they immediately became—they probably were

aware of flies, but they probably were able to do something about the control of flies.

Remember that in this period there was a lot of developments that came in, a lot of things that were not available before—things to buy—better screen doors or whatever it might be.

In the canning, just in the canning, we came into a period where the pressure cooker came into use. And this is when the home agents—this is one of the big things that they did to increase the food supply. They went out and taught how to use pressure cookers and there was a pressure cooker in practically every home that you went into. [It was satisfying] to maintain those and see that this permitted them to grow and can utilize vegetables and things that they previously had done, but were sometimes unsafe, due to botulism. And it increased the nutritional diet to those people.

Well, when I was in Lincoln County we didn't have a home agent so we had to depend on kind of a hit-and-miss deal. Mrs. Mary Stilwell Buol, was the state leader of the home agents and we would schedule her in, well, during the summer, generally, late summer. I'd arrange meetings in each of the communities, in Pahrangat and Alamo and then in Panaca and Caliente, up in Eagle Valley, and she would test the pressure cookers. So all the women would bring in their pressure cookers. And I used to help by doing the—I wasn't the pressure cooker tester, but I could sure move the pressure cookers around for 'em [laughs]. I changed my "county agent" to "home agent" for the day, or for the two or three days that Mrs. Buol was there.

Oh, and there was one program, I think, that was probably a forerunner. I don't think has ever been mentioned and it was very, very effective. In the rural counties, one of the duties of the home agent was to go into schools and weigh and measure, and check

eyes and ears, of the youngsters that were in the schools. And that was carried on—I remember it when I was in Wadsworth, that they would come around and they'd weigh us, and they had the charts, and if you weren't up to weight, or overweight or something, they sent a little note home. They weren't too well trained, but they were trained enough so that they had charts and they checked the eyes and they checked the ears. They had a stopwatch, you know, and put it out here so far [arm extended] and when you can hear— and I don't know. And this, I think, was, well, the forerunner of public health, one of the duties the public health is doing now. And those charts were carried on.

And I did that all over Lincoln County. When I went first down there, that was my first duty, one of my first jobs. They sent a public health nurse down there later on, and she coaxed me into continuing that, helping her, because it was long distances and some of the schools were way out and there had to be quite a few record-taking and quite a few. And she would take records and I would run the kids around and weigh 'em and measure 'em and check their eyes out. And I don't know how effective it was but we did pick up—now this was a strange thing; we did pick up a lot of youngsters with bad eyes or defective eyes and defective ears. And there was a note sent to the parents. We couldn't do anything about it, we weren't doctors or anything else. But at least the parent was made aware that the youngster had a physical defect. And this was a forerunner of public health. And this was carried on till about 1937 or '38, in the outlying counties.

We ran into one very, very outlying community, the public health nurse and myself. It was about sixty or seventy miles out of Pioche. It was an all-day run over rather tough roads. It was a little small school and

we checked the youngsters there. They were normal people and everything, but I never saw so many youngsters that were, what you'd call, hypertension (is that the word?) —they were hyper-active children—in all my life. All of 'em , practically; they were just nervous and very—of course, they were jittery and nervous. Of course, we were strangers in there. But when we got out of there, both the public health nurse and I concluded that this was probably a dietary situation, because the people should have been no different than they were anywheres else. And yet, here was a group of kids—there was about ten or fifteen youngsters, about fifteen, I guess—and you could just poke your finger at 'em , make 'em jump, you know, right now. And they were nervous, jittery, you know. As I say, we may have just [frightened them], because we're strangers and then they hadn't seen anybody. But this was actually happening.

You asked me what the reaction of parents was, and I think it was very good. I never had any parents object to it. Once in a while you'd find a youngster that kind of was hesitant; something was wrong or something, he was kind of hesitant. But it was a strange thing, the teachers often welcomed it, the principals at every school down there, "When are you going to come and weigh the kids?" And the teachers, they welcomed it very much. I never had any trouble with parents, I never had a parent walk up to me and say that, "I don't want my youngster checked."

We've been talking about the work that the county agent, the home agent, Extension Service in general, did. And you can notice that it used to be much broader in scope than it is at the present time. In other words, there was very little specialization. You had to be, as it were, a general practitioner, rather than a specialist. In later years, it became a specialist, you had to be a specialist. And I just don't

agree with that concept, and I used specialists in later years, but I could never quite get out of 'em what I wanted, because they answered my questions as to the specific problem, but they didn't answer how to correct that certain problem. Because the situation or what showed may have been caused from several different problems that you had. For example, a crop might not be doing well, and there may be an insect, but the problem may be in fertilizer or it may have been in watering practices, or it may be in seed, improper seed, improper variety. So to be successful, you had to be not a specialist, but a general practitioner that had a lot of knowledge and could pinpoint your own problem. And *then* you could bring in the specialist. This is the way I look at it now.

The way we handled the family that you asked me about, the family problems, we weren't specialists, we weren't doctors or nurses. When we had the public health nurses, they were nurses. But we had no way of referring them to doctors for payment of the doctors' fees that required, if you found something wrong with the youngster, how to correct that, but we at least made them conscious of it. And I think this was very important. And now, you can't do that anymore, because they have so many individuals in the field that each of 'em take care of their own and there's no more communication. Those programs were very wide in scope, but they focused in on one person, you see.

But now, we spend so much time—I'm not criticizing the personnel they have now, because a lot of 'em are smarter than I was [laughs] and better trained, I know—but they, again, don't get their necks out, they just don't. They say, "Well, go to so-and-so." And they never know so-and-so or what agency. Now it's a job—it's almost a matter of trying

to keep a tab on what agency's supposed to do what and who's the man in charge of that agency. All these agencies interlock, the family becomes confused and the workers in each agency become confused because they don't know what the job is. And it was a broad job, but here's a family that needed help—or at least they thought they needed help—and they came to you for help. And you could give 'em a kind of a broad treatment. It wasn't specific, but you covered so much of their life, their life functions and their life style that, as I say, you counseled 'em .

You asked about family counseling. And this almost became part of the county agents' duties or chores, as it were. It happens quite naturally. You get to know rural people, get to know 'em as friends. And families have problems, wherever they might be. And so oftentimes, you were drawn into so-called family counseling. We didn't call it by "family counseling," but that's actually what we were doing. Either the husband or the wife or the husband and the wife would ask about what they could do with a certain child that they were having problem, [or they] might be having marital problems between themselves. They just had to have somebody that was not a family member to talk to. And the county agent that came along and sat down with them, why, he was as good as somebody to talk to as, I guess, anybody else. They figured that he was a stranger—he was not of the community—and they had enough confidence that you would not disclose their problems to their neighbors. It was just somebody that was not immediate family or neighborhood person that they had to talk to. So I don't know as I made a very good counselor, because here I was single and I was young, but I guess if I didn't counsel right, I at least listened well. I didn't disclose their confidence. So this, I think, was appreciated

and tied you in pretty close to your farmers and ranchers and to your neighbors.

[To characterize the ranchers that I worked with there in southern Nevada]—. Most of 'em that I ran into were very fine people. But they were very, very independent, and that's why they were out there in the first place. Some of 'em were short of money and they just hated to spend money—this is one thing they have not in common with the businessmen in town, or in cities. They just couldn't see spending money to make more money. In other words, they were self-sufficient, they grew a lot of their own stuff. They grew their own cattle. They didn't believe in going out and purchasing very far from home, extra cattle or anything like this. They'd rather just grow 'em from their own stock. And they knew themselves intimately. They were more or less like a family. In fact, a lot of 'em were related. And this, of course, builds up—if you live close enough within a family, there's little animosities and little troubles that come up. And they remember these things. And then there's always the ones that take advantage of the rest of 'em just a little bit. So they're very cautious in making any commitment. They'll keep their commitments when they make 'em, but they're very cautious in making a commitment.

At the little town of Ursine, which is in Eagle Valley, for example, there was generally two general factions there, the Hollingers and the Lytles. And they were something like the [Hatfields and McCoys]. They feuded a little big, you know? That one tribe lived on one side of the street, as it were, and the other one lived on the other side of the street. And they built some rather odd relationships. Billy Warren married to a Miss Lytle and he was kind of the leader in the community. He's a very fine man, a very good friend of mine.

And he had seven or eight hundred or maybe a thousand head of cattle. So he was one of the larger operators there. And he did business for the whole community in a way, the cattle buyer would come in and he'd head for Billy Warren. And if he bought Billy Warren's cattle, why, he generally bought all the rest of the cattle at the same prices.

This was a kind of a little observation that I made, why, when the cattle buyers [came], they always took generally a ten percent cut, you know, of the poor—they cut 'em back and paid little less money. So, when he made a deal with. Billy Warren, he paid the same price to all the rest of 'em for certain grade and certain age of cattle. But Billy Warren, as I noticed, never had any cut-backs. His were always good prices. See, this was the pay that he received for being the leader in the community. And there's nothing wrong with that. He was probably the sharpest one, but he did this. And this is one way that he swung the whole community. He got on the grazing board and he was on the Farm Bureau board of directors, and so he was quite influential. He's, as I say, a very fair man, and a very sharp thinker. And he kind of kept 'em together, he kept 'em from feuding. He was actually an outsider that had come in there as a young man, and he'd married one of the local girls there. They had no family. He was very well thought of in the Hollinger group, too. There was the Hollingers and the Hammonds on one side, and the Warrens and the Lytles on the other side. And the Damrons and—. They were more or less related, family relationships there. I found, strange as it may seem, there was no intermarriage between the girls and the boys; it even went that far.

[How did I manage to get along with all these various factions and sides?] Well, it was kind of an odd situation. I was just, as I

said, just a country boy. I never did take any sociology, or I didn't know this group action or anything, but you just kind of acquire that from habit or acquire it—. And you go into these small communities and you try to work with 'em. And you've got to be fair with everybody, and you don't tie in with any one faction.

You pick out the leaders. And this is an odd situation. Sometimes the most talkative ones are not the real leaders in the community. You've got to stick around a little bit, and pick out the ones that are successful or the ones that really bear weight in the community. And it's kind of odd, in some of 'em, you'll find a leader that is very silent and doesn't say very much, but you know damn well that he's a leader. And you've got to get him on your side, any time you want to put on a project. You go into another community and there's a vociferous one that gets up and speaks, and he might be the leader. You pick 'em out, and after you've worked with 'em a little bit, you can—it doesn't take very long to really sort 'em out.

Now, the odd thing that I did in later years, in 1954, I think, I went to the [Colorado A&M] school at Fort Collins, summer school, and I took sociology there, a course in sociology. And I [laughs] really enjoyed it because, here I had been county agent for about twenty years or so, just twenty years. And I'd gone all through this process and I didn't realize that I was doing so many things right! To have succeeded in my profession without any training! I just stumbled onto it by practice, and just doing it. And you have to do these things, and I think that many of the younger—well, a lot of people that take training, even in sociology or whatever the course might be, just never quite become aware of the situation it is. You've got to like people and you've got to be pretty observant

on what they do and how they stand in the community. And it comes to you pretty quick, on the leaders, you can pick 'em out.

In a small community, everybody knows everyone else. So you're not so stratified, and the association is closer. By this, I mean that the rich man deals with the poor man, or the large farmer or the large rancher deals with the smaller ranchers; in one method or another they have to get along. The affluent one, in other words, deals with the one on welfare. And they understand each others' problems a lot easier.

Whenever you want to get into a larger community, like when I came into Reno, I had quite a little different problem there. You've got to find out your political structure and who's handling what and who are the leaders in the community, in a particular project that you want to get to. And sometimes they're a little bit harder to find. Now, in your larger community you, of course, have different organizations and different societies. But you can do this; it takes more research and you've got to be—oh, you've got to move in a wider circle.

Extension agents have to move in many different societies, they just have to, because you're dealing with so many problems and so many situations. In club work, you deal from the very affluent down to those on welfare or very low income status. You're generally in the middle income group. Now, when I came here to Washoe County, I kinda figured out from the names of the youngsters and from what I could gather, I kinda tried to figure out what financial status they came from. And I think we figured out that about five percent from the upper income and then about oh, ten to fifteen percent from the lower income the rest of 'em were all middle income. Generally, we hit the middle-middle income; the program was geared and carried on that way. The odd

part of it is in extension work, this is the place that you have to work. You just, if you get away from that, you're setting up a situation in which you're taking the side of either the affluent or the welfare group. And you become ineffective to a large degree. You might become very effective in the group in which you're working, but for over-all, and with the staff that you have and the capacity that you have, you've lost much of your effectiveness.

Well, this is everywhere, as in any society, you have your characters. But when you get into small towns and rural areas, you come in contact with them and you make more note of 'em and they're kind of exaggerated a little bit, from the normal behavior of your other citizens. When you get in a small town, there's a lot of characters and, I guess, probably pretty near everybody is a character if you really want to carry it to a certain degree. (We're all a little bit odd in some places, you know, and in some subjects.) But you get around a mining camp, and this is probably more true than in any other areas, because it attracts that kind of a character. And in Pioche we had our share.

There was a "Dirty Curley," who was in that area and when I went there in 1934, and he was there when I left in 1942. And he supposedly had gone to pharmaceutical school and had graduated and was a pharmacist, but, I was told, in the process he had become a heroin addict. And in order to cure his addiction to heroin, he became an alcoholic. I don't know what he subsisted on, but he lived around the saloons and restaurants and I presume that they fed him and he bummed a few drinks and he hung around. And he lived in a cabin somewhere. And as the title indicates, "Dirty Curley" was not a very pleasant sort of a person; he didn't bother anybody, but he was just kind of a little bit filthy. He used to put on these clothes and he never took off anything, he just added a—if a shirt wore off in the

sleeve, why, he just got ahold of another shirt and put it over the first one, and after awhile, he had four or five layers of clothing on. So the sheriff's office would let it go for several months, and then about three or four times a year, they ran him down to the courthouse and into jail and cut the clothes off him and bathed him and sheared his hair and his beard and turned him loose again. He was supposed to have come from a good family in southern Utah, and his brother was supposedly a top notch surgeon in that area. But poor ole Curley lived out his—I don't know, twenty-five or thirty—years in Pioche there. I guess it was satisfactory for his—he was kind of a pathetic sight. Nobody picked on him in particular, but everybody knew Dirty Curley.

We had another character there, that was probably even more—. It was a lady and I won't mention her name, but she weighed about 220 or -30 pounds and she had raised pigs from the garbage up town, and she had 'em down about a mile, or mile and a half from town, in kind of a loose corral that they ran down in there. And she'd come to town and gather garbage from the restaurants and stores. She could carry two five-gallon cans, one in each hand just very easily and set 'em up on her pickup truck, with no problem at all. The feeding operation that she used was, of course, a little dangerous, because hog cholera did break out in the hogs. She sent for me, and I went down. I was not a veterinarian, but I kind of looked the situation over, and I figured that the only thing that could happen was hog cholera, so I sent a wire to my state office and they sent Dr. Smith. [He] was a veterinarian with the state Department of Agriculture down in Las Vegas. And from the description that I gave him, why, they assumed that it was hog cholera. I got a wire to meet him at the Union Pacific railroad and I went down and picked him up. And we went up and looked

over the situation and he diagnosed it as hog cholera, and he had vaccine for the whole herd.

I can remember very clearly, we'd had some cold and stormy weather and it was muddy, and the pig slops and what-have-you, and we had to get in that corral. There was just the three of us, this lady, the doctor, and I, so we devised a little noose to catch the big sows by the snout, then we'd have to take 'em down and hold 'em and vaccinate 'em. And if you've ever handled a three or four hundred-pound sow in a sloppy corral, you can just imagine how tough it was! But it wasn't so bad. I'd put the noose over their nose and then hold it and grab 'em by an ear and the front foot, and the lady would kind of lean her sumptuous weight over the rear end of the sow and the sow would go down, and then she'd sit on it. And we didn't have too much trouble that way [laughs].

But there's a little addition to that. She had a boy friend that was quite a bit younger and than she was and a very good looking man. She kept him pretty well under control.

But there's still another side to her story. She had quite a number of little cabins down there that she rented out very cheaply to, oh, miners and other families in the town there. And she—well, she was very coarse and seemed to be very hard-hearted, but she had a pretty soft spot. She put up with 'em when they didn't have money, and she adopted a little orphan girl that was left to her there, and raised her as her own. She had raised a family and they were all gone, but she adopted this little girl and raised her herself. So she had a kind streak in her soul.

You asked about the morals of the community, as it were. Well, there happened to be no red light district in Pioche; I don't know what had happened, but there was none in Pioche. But there was one in Caliente and it

was known as Strawberry Gulch. I think there were four or five girls there. And this served the whole community.

But the strange thing about Pioche, there was three or four of the bar owners there that had married—most of 'em were madams, had been madams in some red light district. And they were really tough characters. One of 'em, particularly, would get on a drunken spree, and boy, she cleared the saloon out. She was tough. There was another one there; in fact, there was three of 'em there, that I know of, that had been former madams. And some of 'em, they got so they behaved, and they were accepted more or less in the community. Everybody knew their characteristics.

I probably better not mention the names (but I will describe some more of Lincoln County's characters). They're dead and all gone, but some of the family in this one are still alive.

You know this George—and I won't mention his last name—he was kind of a character. He had been in there, I don't know how he got in there but he was down in the Wash [Meadow Valley] and he had a little kind of homestead down there. In his earlier days he'd been quite active and a pretty good drinkin' hand, and so on and so forth. He could neither read nor write. The story goes, he'd driven a buggy from Pioche Caliente in winter. In those days, you have to cross a creek and as he went across the creek, the team that he was driving broke loose from the spring wagon or whatever it was that he was driving. He got his feet caught in the doubletrees or something. The water was high and got him wet and he couldn't get loose and he froze his feet. Part of his foot was gone. He was drunk, of course, and somebody came along and finally pulled him off, but he lost his feet, part of his feet. So he hobbled. Well, he had gone down and settle

down on this little place, homestead, down below Caliente. He had a couple of old horses, he was kind of an old horseman. they'd run on the range, and somebody else had helped him brand so that he'd build up quite a little bunch of horses. horse prices went up pretty good. So they'd round up a bunch of 'em and he sold 'em.

Somebody convinced him that he shouldn't carry that much Money around; he should put it in the bank. George didn't know anything about banking, but he did what he was told and He put it in the bank, " Now, if you want to draw any money, if Ever need any money," he says, " here's a checkbook." They explained to him how to make out a check, and so on and so forth and sign his name, and he would draw that money.

So George proceeded to have a fine time. Whenever he ran out of money, why, he asked the bartender, he says, "Write me out a check." So the bartender would write him out a check, and since he couldn't write, why, he just put his X on it. So this went on for quite a little while.

Pretty soon, why, one of the bartenders said, "George, your check bounced. You haven't got any more money. We can't write you any more checks."

He said, "What do you mean, I haven't got any more money in the bank? They're dirty liars! Look at all the checks I got left here!" [Laughing] They're cheatin' him!

You asked me about some of the characters and some of the people that were there, and I thought mostly of the older men that I knew down there. But there were also some younger men that I've seen 'em develop, and are kind of characters in themselves. And one of these is my friend Chester Oxborrow, who's ranching now at Caliente. He started out in a rather poor family, ranch family, in Lund and worked for Kennecott in a machine shop up at Kimberly and then married one of

the Fogliani girls from Lincoln County and moved in there at the time that I—I think it was 1935, about the time that I established in Lincoln County. And we've been very close friends ever since. I want to mention him because he is a character.

He's a character that, his philosophy is very forward looking and always has a bright spot. He could take a situation which seems rather dull and hopeless, and he can always see the bright spots. And he generally comes out making some money on it. Eventually, when he came down there, he worked for his father-in-law for quite some little time; for a year, I think it was. Eventually, he went in with his father-in-law and a brother-in-law on the ranch there, and they bought the father-in-law out and he ran it for awhile and then he sold it. It was really amusing, the way he sold the merchandise of the place. He had offered it for sale, cattle and all, and he couldn't get any buyers, local buyers. So he proceeded to sell the ranch first (now this is rather an odd situation) to a neighbor. And then he proceeded to merchandise the cattle separately, and then the horses separately, and everything else. When he got ready to move out, he had everything sold and he had made quite a bit more money than he had originally offered as a whole.

He went into the butcher shop and retail business in Ely and McGill. Then he decided he wanted it in Smith Valley, where he worked for Mr. Seddon for two years, one year in a partnership. And then he wanted to buy Seddon's ranch and he wouldn't sell it to him, so he moved back down to Las Vegas and eventually became a contractor there.

And eventually, he didn't like that. And he learned to fly a plane and he didn't like the contracting any more, so he moved. He bought a ranch back up in Caliente. And actually, he's got two ranches, one of 'em that

he owns— well, he owns two of 'em , but he has one of 'em he runs kind of in partnership with a friend. And he developed the area there. He's helped the area. He served two terms as a county commissioner, he's now on the school board, president of the school board in Lincoln County. And I just mentioned him as he and I enjoy much the same thing, and he's quite comical, and his bright outlook on life. And it's just pleasant to run into somebody like that. He's made it pay off, he's made money and he's made it pay off.

WILDLIFE

In the years that I was in Lincoln County, there was quite a bit of game there. There had been more, I guess, of some kinds in previous years.

For example, up and down the Wash there, there was a lot of quail. And I got in on several pretty good quail shoots. There wasn't too many ducks, but there was some ducks. There was a lot of ducks in Pahrangat Lake. I never did hunt too much there; I hunted several times. It's now a wildlife refuge, that area, purchased by the Fish and Wildlife. And it's a wildlife area, but it wasn't at that time.

I'll cover birds a little bit more. Some of the old timers tell about the tremendous number of sagehen that were in that area. Apparently, they were as far south as probably Panaca. At least they were at the Delmue Ranch, and Albert Delmue told me that when he was a youngster, he had a twenty-two and he shot the old hen and all the chicks. That was the last that was in that area. But they were at Flat Nose, they were in the Clover Valley area. And they were north of Pioche; there was a lot of 'em , and the old timers tell how many there were there. But I went hunting a couple of times and I never did kill a sagehen in Lincoln County. I did

see two or three small bunches of 'em , but they were pretty well killed out. I think that was about probably the southern extremity of the sage grouse territory in Nevada. And I don't know if there's any left there or not, but I saw 'em on White Rock Mountain. They were at Geyser; there was quite a few at Geyser. And over the hill at Cave Valley, there were sagehen. But that was up towards White Pine County and was towards the northern end of the county.

Now the deer situation was quite different. Albert Delmue (again I am quoting him) tells when he was a youngster that there just simply were hardly any deer in the area at all. He remembers as a young man that if they saw a deer track, they took out after it, and generally, either lost the track or found the animal and shot it. But when I was there, the deer were plentiful and very easy to get. And big ones. This is one of the sports in area; there were a lot of deer. And, of course, there was quite a bit of poaching and this kind of thing. But there were a lot of deer. I understand now that the deer population is very severely reduced, because of the very heavy pressure from Clark County and Las Vegas. Hunters came in there and over-hunted the area.

There was the regular rodent problem in the irrigated valleys—gophers and squirrels. I think there was probably two peaks of rabbit population in there. There was a tremendous number of rabbits. They ran over the ranges and you could find 'em anywhere, but this happens time and again. Of course, there was cottontails—that was common; I guess it's common throughout the state. And you had the regular bird life, of eagles and hawks and owls.

I did help a little bit down there—when I was down there, I tried to establish the chukar partridge in that area. But, it was never [large], at least in my knowledge. There was

some railroad men in Caliente that raised quite a few of 'em and I helped turn 'em out. But, to my knowledge, none of 'em actually were successful in establishing the population there. They may now, but they weren't at that time.

POLITICS IN LINCOLN COUNTY

While the Extension Service is not supposed to be political, you just couldn't quite help be somewhat entangled in political matters. It just happened that both Lincoln and Clark counties are very strongly Democratic. Democrats outnumbered the Republicans by great amounts, three or four or five to one in those days. And since I was a Republican, I became, for registration purposes, a non-partisan. And since the Republican party was not very strong there, there was no reason to look them up. So I was working almost entirely with the Democrats.

But a rather odd situation developed, and probably still is in existence in Lincoln County, where there were probably five to one Democrats. The Democrats actually had two parties, and they were divided more or less by family relationships. And there was one faction that backed a certain candidate and the other faction backed the opposite candidate. So the bitterness of a campaign would be much worse than where there were two parties represented. I can remember on election night, it was always quite an intrigue to go uptown to the saloons there, which I entered quite often. One reason was, they definitely had restaurants but that was more or less the center of entertainment [laughs] for local people and there was nothing wrong with it, that I could see.

But the saloons there would set up black boards and carry the candidates' names on 'em , and they were all Democrats. And there were,

of course, the different factions represented in either eating or drinking or watching that board there. And the results from the certain precincts would come in, and one candidate would get ahead of the other one, and there was clapping and howling for one side. And then the other precincts would come in, and they would even up or the opposing candidate would go ahead, and there was clapping and cheering from the opposing side. There were really pretty bitter campaigns.

This is where I first learned about how to do a little bit of politicking. If there was, for example, in one of the offices that carried two officers or two elected candidates, each of the factions would wait for the night or so before the voting and then the word would pass right on down through the grapevine, "single shot" one or the other—which ever one they wanted. And so instead of voting for two, they voted for one. And that was very effective, sometimes electing a weaker candidate than the stronger one, because where there's not very many votes, if you could control a block of fifty or a hundred votes, it meant the election of a candidate; you could just do that.

Just to show how much rivalry there was in the offices: there was the Wadsworth family from Panaca. Mr. Wadsworth was the district attorney and he had held this office for quite a few years. So the Lee faction in Panaca were opposed to the Wadsworth; they brought in a Mr. Martin from Idaho. He came in and practiced law for a little while. Finally the election time came, and they each filed for office. They were both Democrats, but Mr. Martin was able to defeat Mr. Wadsworth. And this brought on a little commotion in the community and it was very bitter. There were many such things as that, one sided; you'd have control of the county for quite a little while in one particular office and the opposing side

would eventually reach out and develop a local boy or bring in one from the outside.

4-H CLUB WORK

You talked about the 4-H Clubs. The 4-H Club program had been started down there fairly early, I think in 1917 or '18. It appealed to the people, and it was a good program. Then I went in there, there hadn't been very much done. There was only John Wittwer for the two counties, and he had a lot of other duties and naturally, not very much could be done. We didn't have all of the literature, programs, or directions that we do now. We had two or three books, some of 'em, I think, that were written by Mr. Buckman (I think one of 'em was written by Mr. Buckman anyhow), the directions on how to do it. So we organized; I organized both boys and girls club work. I organized 'em in Clark County, I organized 'em in Paradise Valley and then just south of Las Vegas, I organized 'em in Moapa Valley, and in Virgin Valley, and in Pahrnagat Valley, in Caliente and Panaca and Pioche. There was a reservoir of very fine people, the women in particular. They were Mormon people and they believed in their youngsters, and they wanted to do something for 'em. This was one program that they cooperated in very well. And I had never had very much experience in organizing club work, but it didn't take me long to catch on.

They were all neighborhood or community clubs; generally organized 'em—you had the sewing and cooking, and so on and so forth. They were generally done by one leader, although they did, where there was a little town, they kind of divided into the cooking group and the sewing group and the garden group and the livestock group. But it was organized quite a bit different; there wasn't continuity throughout the county. They were

pretty well aware of club work down there. There had been some good work done down there by the local leaders.

Actually, Mr. Wittwer again had gone to the county commissioners, and in order to push it, he had got the county commissioners to put aside, I think, fifteen hundred dollars or so in each county for 4-H Club fairs. I think this was about 1935. I organized 'em and started 'em in 1934, but it took me a little while to get over into having fairs and what-have-you.

I think it was 1935 when we had the first one that I ever ran in Lincoln County. I went down and ran it for 'em in Clark County. We had prize money from the county. I had a secretary by that time—I had a part-time secretary—but we had no premium lists, nobody to give us any advice on it. (But] there was some of the leaders there that had worked there previously and I'd worked in other areas. They worked with me and we wrote a premium list as best we could, and duplicated 'em and then appointed judges. We had ribbons, and we had the whole works. And how we got it done, I don't know, but we got it done. I imagine that some of it wasn't so very good as I look back on it; it was pretty primitive but we did want to get 'em going.

It's a rather primitive way in which [the club work] was done. I think it probably did do a lot of good for the youngsters. To give you an example, we had clubs organized in Pahrnagat Valley and we had arranged for all the youngsters in Lincoln County to go down for a camp, down in Clark County up at Mt. Charleston. So in order for the youngsters to have a new experience, actually, we had arranged to purchase tickets on the train from Caliente to Las Vegas at about half fare—it was a dollar, dollar and a half both ways—and I wanted to give them a ride on the train. When we got to Las Vegas, they would pick us up

with buses and haul us to Charleston and out to the Dam—we were givin' 'em trips. (This was experiences, now, that they still do it. And we were doing this thirty-five and forty years ago.)

But anyhow, to show you how rather isolated those people were in Pahranaagat, we borrowed the school bus and I coaxed one of the leaders to do the driving. I rode over with him from Pahranaagat to Caliente. And as we came into Caliente, as you come out of the canyon onto the road there, and come into Caliente and railroad goes down the Meadow Valley Wash and you can overlook the valley at Caliente there. As we drove up, a train, a big freight train, was going south. I listened to a couple of the youngsters say, "Oh, there's a train!"

And I said, "Haven't you ever seen—?"

No, they'd never seen a train! So I had the bus driver stop and actually have the youngsters look at a train going by. Now, they were only sixty miles away, and these youngsters were ten, eleven, and twelve years old, and they had never seen a train. So this is quite a little experience for those youngsters. We did this on several occasions, but that was the first time we did it, it was the first time that I'd known that I'd had youngsters that had never seen a train.

So this was about, oh, about '35 or '36—in there sometime. We moved 'em out of Caliente. This is when they were building the [Boulder] Dam. And I don't know how Mr. Wittwer arranged it, but we had trucks and buses—we had trucks generally. We went down to the dam and saw the construction of the dam going on. This was something. And then we moved 'em up to Charleston. There was some semblance of a building there, but on several occasions the youngsters had to do their own cooking. We organized 'em into groups, with a leader for each one, and we brought their food, so on and so forth. As I

recall, it wasn't such good fare, but we got by, and the kids, I think, actually liked it very well.

We had one mishap there. One of the youngsters broke a wrist, and we had no insurance or anything else. This was pretty hard to take care of. It's a wonder we weren't sued or there weren't more accidents than there were. We had no insurance or anything else; we just took 'em, that's all.

To give you an example of the other things that happened to us (this was about 1937 or '38, thereabout), I took a group—I think there were thirty-nine—and they happened to be all girls or women leaders except the bus driver and myself. We borrowed the bus in Pahranaagat. We drove over to Caliente and Pioche and doing over, ran into two or three very bad—it was July—storms. In those days, they had dips in the roads and we had to stop on two or three occasions till this water went down. I'd arranged to keep the youngsters in one of the halls in Ely—I think the Elks Hall in Ely—for nothing. Then we had breakfast next morning and we started off from there.

The bus went bad, Something went wrong with the clutch shortly after we got out of Ely, and we struggled into Reno and up to Lake Tahoe. Oh, we struggled as far as Fallon till we could get it fixed, and then we struggled up to Lake Tahoe and we didn't get there 'till 2:30 in the morning. We slept—in those days, they had straw ticks and all the tents were practically taken, but I finally got the kids bedded down.

We had contests, and one of 'em was a health contest. I'd brought a little girl from Pahranaagat—and fortunately, I had her examined by the doctor before we left. I wanted her to be healthy. She came to Lake Tahoe and she was all right until Thursday, I guess, but she got suddenly sick, very sick. We called the doctor and he diagnosed it as scarlet fever

So we broke camp immediately [laughs] and started back. And they were threatening to quarantine us, but they hauled her in to the hospital down in Reno. I don't know where they put her, but the—you know, they took her.

So we started back and we didn't dare stop anywhere. We came through Reno and we went out to Fallon. And when we got down to Fallon, we had to buy gas. So I pulled into a gas station and the sheriff's car met us there. And he says, "You can't stop in town. You've got scarlet fever."

And I said, "Well, we've got to have gas and I've got to have food for the youngsters."

So he says, "All right, you can. You and two leaders can go up town and buy food."

So I and two leaders went up town and bought some food and loaded the kids on the bus again and drove them as far as Eastgate. By that time, it was getting dark. I bedded 'em down there, and we managed to get 'em fed. We pulled out our bedrolls, and they slept on the ground. I thought I was picking a nice place to stay, but I didn't figure on the night winds, and in the forepart of the night, they blew uphill and in the morning, they blew downhill. We had winds all night, so the next morning they were pretty tired. So I loaded 'em on the buses and we got goin'. In the meantime, I think it was a car from Las Vegas had passed us and they got up on the Austin Summit, and they tipped over. But there was nothing happened; they straightened it out, helped 'em straighten up and they kept goin'. But when we got to Austin, we again were out of food and gas and again the sheriff met us there, and we again did the same thing and we went as far as Ely. And when we got to Ely, the sheriff was there again. So we bought some more food and I was feelin' pretty good. It was gettin' along 'bout four o'clock in the afternoon. We went out of Ely and ate sandwiches, and started off for home.

I had sent wires what had happened, I'd sent wires ahead, and by this time it was in the papers and all. Everybody was excited. And when we got by the Geyser ranch, one of the parents came buzzing out to get their daughters. He got a flat tire and he didn't have any spare, so I had to give him mine. I had to help him out. So we got him into town again.

When we got into town, here's the sheriff and the doctor, the health officer and—just a crowd of people. And here, oh, all the little girls were sick; they had bellyaches, what-have-you. And [I] calmed 'em down. So when we got to Pioche, why, somebody said, "Well, there's an empty house down there. The girls can move in."

So the leader and the youngsters went down to the house and moved in there. Then I went to Caliente and there the sheriff followed us down and the doctor was there again. We again arranged for one of the parents to take what youngsters were there. By that time, it was about two o'clock in the morning. I had a room in Caliente, but there was no motel, there was a hotel. They wouldn't let me in the hotel, so—.

Oh, the bus driver's wife had gone with us and she wouldn't talk to me, she was so mad at me. She says, "Why did you get us on this trip, the youngsters sick, and you should have known it?"

I said, "I can't help that. I had her examined by the doctor." But she was pretty mad at me.

So we did get into a restaurant there and I bought food for the bus driver and his wife. And I had a leader from Caliente; she was a sweetheart, she was a good gal. Her family lived there. And the doctor says, "You can't go home to your family." So she was stuck, and here I was stuck.

I told the bus driver, "I just can't take any more." This was about two-thirty in the morning.

He says, "Well, I'll drink a cup of coffee and I can drive into Pahrnagat." He had somebody that would drive his car over and would bring it back, so this what we did.

I found myself at two-thirty in the morning, walking up the street, and I had this leader with me, and all loaded down [gestures] with bedrolls and suitcases and what-have-you.

I was very friendly with the postmaster there, who had a little motel. He'd heard about our plight, and he sent a fellow down to tell us we could have two rooms up at his motel. So I went up and rented the two rooms, and I put the leader in one and I took the other one. The leader's husband came down—she arranged for him to go home and take care of the kids for a couple of days. They quarantined us for five days. We couldn't go into the hotel; we could stay in the motel, but we couldn't go into the hotel, and we couldn't mix with other people. So for the five days we recovered we—. Oh, and they quarantined the bus driver and his wife. So they would come in the morning, or I'd go over and find out what they wanted for breakfast and I'd go order breakfast. And I'd haul it over to the motel, and we'd have breakfast. And then I'd say, "Well, let's put up a lunch." Then dinner, I'd do the same. So we picnicked for five days, and laid around for five days [laughs].

Eventually, the youngster got better and they sent word that she could come home. So she came home, and I met her; I had to come up [to Reno] and get her. Got her home, but that didn't pay any of the hospital bill. County commissioners refused to pay, parents didn't have any money. It was only seventy-five dollars, so John Wittwer and I split the difference, and we paid for her hospitalization. If it had been now, it would have broke us forever!

As it was, in the mix-up, I lost all my—. In those days you didn't have any credit

cards, you had to get slips for gasoline for the truck, and what-have-you, and the bus and everything, and I lost all my cash slips. I lost everything, somewheres in the shuffle I lost 'em, and I couldn't turn in any voucher for compensation for 'em. So when I got all through, I'd figured it cost me two hundred, or better than two hundred, and a lot of hard work. But it was quite an experience.

Those were the days when at Lake Tahoe there was still the steamer up there. This is kind of a funny story. There was one of the girls from Pahrnagat Valley, and she was quite a tease. And she got to calling me "Brigham Young with all his wives." She was a Mormon herself. They got to hollering "Brig," "Here comes Brig." We went on this trip on the steamer; I think it cost 'em seventy-five cents a trip when they went around the lake. And I found myself down in the boiler room talking to the men that ran the engines down there to get away from the kids calling me "Brig" [laughs].

Another time, we had a group of youngsters, taking them up to the camp. I couldn't get any buses, but I did get a little old fellow that had a truck. We had baggage and everything, and we loaded on the baggage—and I had an extra car, the Extension car—and I loaded the kids up and we had about fifteen or sixteen of 'em. We got to the camp fine, in good shape. That year, the World's Fair was on at San Francisco. So we broke camp, I think on a Thursday, and we took the train down to San Francisco and went to the fair for one day and then came back, and then started back down to home.

In San Francisco, they had various little concessions on there. This is kind of funny because I stepped on a scale and they said something about, "The farmer came to town." And they had a pit there where they had the girls would draw pictures, you know. You throw 'em fifty cents, I think it was, and they

drew a picture. I threw out fifty cents, got my picture, and she wrote on the bottom "the big butter and egg man" [laughing]. I said they sure picked out the country kid!

But there were a couple of little girls, and one of 'em I still know, is a good friend of mine. She wasn't from my county, she was actually from Lyon County. And years afterwards, she says, "You know, you saved my life and some other little girl's life."

And I says, "How'd I do that?"

"Oh," she says, "we went on that trip down to San Francisco and that took every penny that we had. When we went down there, we didn't have anything to eat, we didn't know of anybody, we couldn't borrow any money. And do you know, you fed us the whole time we was down there [laughs]." You know, hot dogs and this kind of thing. She still laughs about it. Every time I see her, she says, "You saved my life."

But anyhow, the thing that I was goin' to tell you about was—. We started out, we came back to Reno and we got on the trucks and the cars and we started back for home. And John Wittwer—by this time, there was two counties; I was in Lincoln County and he was in Clark County—he asked me if I wouldn't help take the group from Clark County back. They had a car. I think there was three girls and a leader, So I said, "OK."

We started out and when we got to the other side, between Austin and Eureka, the doggoned old car there, the Extension car from Clark County, broke down. I rearranged the loads and I gave 'em my car. And I had a very nice leader, she was a school teacher. And I says, "Well, you watch—" and I told 'em what to do. And the youngsters we were sending on the Ely, I said, "Now, I'll be in Ely to pick you up tomorrow. I'll get the car fixed, and I'll pick you up in Ely tomorrow!" I said, "Go into the Nevada Hotel and tell 'em that I sent you there and to give you rooms, and

when I come over there I'll pay for 'em." And I said, "Go into Eureka and send out a tow car."

So there I sat, out in the desert all by myself; all the rest of 'em had gone. The cars were going back and forth. Nobody stopped. But finally, the tow wagon came up and we got into Eureka. And fortunately, the man was a good garage man and he found out what was the matter that night. And he telephoned or wired over to Reno to send a piece back by a bus that would be there about noon.

So I got a room and stayed over and got my breakfast and—. I didn't have anything to do in the morning, and I thought the kids were all right. I'd given 'em some money, I knew they had money to eat, but they didn't have money for a room. I guess I should have given 'em money for room, but I'd told 'em I'd take care of it.

And the next day about two o'clock, why, [the mechanic] was through and I took the car, and drove on to Ely to pick up the youngsters. When I got to Ely, I found that the youngsters had stopped at the Nevada Hotel, but they hadn't told the clerk anything about getting rooms. And they stuck around and he finally let 'em go down in the basement and sleep on some cots down there. And I gathered 'em all up and went out to Caliente. And when I got to Caliente, I found that the three youngsters from Clark County had taken my car and gone on to Clark County. Fortunately, the good leader that I had, had taken care of 'em over night and the next week— or the next day or three or four days—I went down to Clark County retrieved my car. But that was quite an experience, both mentally and physically. I look back on those things and they're really quite amusing.

WARTIME CHANGES

Well, what we're going to do now is kind of shift from before World War II and after

World War II, and the different programs, different emphases placed on a program, because we were in a different era. I can remember distinctly December 7, 1941—my wife and I were married by that time—we got up on a Sunday morning, it was a little late and we had coffee on the table and had a little breakfast, and I turned on the radio and all of a sudden, I heard about Pearl Harbor and the attack on Pearl Harbor. So I called her out of bed and we didn't hardly believe our ears. But it was on. So I ran down—I got in the car and I knew my friends Loyal Willis, and his wife was my secretary, so I ran down and told them. He was with the Farmers Home Loan Association. Very shortly after that, or about a week or ten days after that, he went down and volunteered and became a pilot and flew the big bombers in Europe later. So I had to look after his wife, which was my secretary, and she was pregnant at the time, and she worked right up to the day the baby was born—I took her to the hospital.

But anyhow, it started a different trend. They had the (what did they call 'em, the war boards?) rationing boards, anyhow. We dished out the equipment; that is, we had through our 3-A committee we broke off into committees. We had a committee that was called a rationing board, I think. We had forms; the ranchers or farmers would come in and sign up for oh, such things as wire and gasoline and equipment and all this. And we didn't have an awful lot of it to do in Lincoln County because the war had just started and there wasn't a lot of large ranches there and the call for equipment and that kind of thing wasn't as heavy as it was in the more heavily agricultural areas.

AGRICULTURAL EXTENSION WORK IN LYON COUNTY, 1943-1954

INTRODUCTION TO LYON COUNTY

When the war broke out, of course, there was a scarcity of agents and a scarcity of all kinds of skilled and unskilled people. Thomas Buckman sent me a were, I think it was about in May of 1943, he asked me if I would care to move from Lincoln County to Lyon county. I went home and told my wife about it and she says, "When are we goin'?"

I was all for the moving, because I recognized Lincoln County was a very small county agriculturally and otherwise, and there was no chance for any great advancement. I enjoyed my work there, but I felt that if I was going to do a little better, why, I had to get where there was more people. And so we moved. And I moved in July of 1943.

The agriculture in Lincoln County was more primitive. The cattle industry was even more primitive; it was strictly a range-cow outfit—no feeding. And the agriculture, as it was, was very primitive also. The crops that they raised were rather limited and on limited acreage. So, when I came into Lyon County

in July of 1943, I had a little catching up problem to do, to come up to their standard of agriculture. And I had to get reacquainted, organize myself into a different kind of a situation entirely. And it was somewhat different people, a different agriculture.

I found that, generally, the agriculture in Lincoln County was, except for a few of the larger cattlemen, was rather poor. Small farms and rather poor outfits. When I got into Lyon County, there was more money in the community, larger operations, a wider variety of crops, livestock better, a—well, it was just a higher class of agriculture. So that I had some catching up to do there, and reorienting my program and myself to the different situation.

I ran into the same thing when I left Lyon County in 1954 and came to Washoe County. I had to orient myself from a more or less strictly agricultural situation to an urban situation in which the agriculture end of it was declining and the urban situation was increasing. In other words, we had to move actually into a people's program. And this trend is common now, not only in the

agricultural counties, but all counties. You moved in with club work, for example. You moved in from strictly a rural city, moved it into where the people were into an urban city. And this took quite a little bit of adjustment to catch up with it and reorient yourself so that you could do this. Now, it wasn't so terribly hard to do as far as a homemaker and the women's program, because you have kitchens in homes and women and kids, whether it's rural or urban. But when it comes to city problems, or I should say lawns and horticultural end of it, you had to get over into the horticulture end of it rather than into the crop production—strictly crop production. And this was quite a little adjustment to have to be made.

We're talking about Lyon County now, and my coming there in 1943. This was a pretty well developed agricultural area. They had livestock, cattle, sheep, range cattle, range sheep, and there was some feeding going on and very well developed in the crops areas. Alfalfa, grains, potatoes, and onions—those were the principle crops. These lands are generally very fertile and the water supply in Lyon County is very favorable, particularly speaking of the West Walker River, which cruises through the Smith Valley and the East Walker through the East Walker area; and then the two of them, the main Walker through Mason Valley.

First we'll [describe] the livestock industry. It's particularly well located because here's an area that provides the winter feed for both cattle and livestock. Here's the high mountains to the west and to the south, and the high valleys and Antelope Valley and Bridgeport provided summer pasturage for cattle and also the sheep. The desert areas provided winter grazing for both cattle and sheep. So the livestock industry was well developed there.

We'll kind of talk about the settlement—as I understood it and as I kind of lived part of

it—of Lyon County, the type of people that were there, the development that they brought on, those things.

When you describe Lyon County, you pretty near have to go back to 1859, when gold and silver were discovered in Virginia City. And naturally, the development along the Carson River followed almost immediately, with the demand for food. Because at that time there was no railroads and supplies and food had to be transported from California, and it was scarce even in California. So they developed a source of supply close to the area. This was particularly true of—well, of all food and fiber. But they had to have a close supply of hay and grain for the horses; there was a tremendous number of horses used in Virginia City mines and it developed the trucking industry. And of course, the dairy was developed in that area, and the vegetable production was developed in that area, and a little fruit industry was developed. Anything that was produced locally, so they didn't have to haul it, if they could produce it, they used it close by.

So it brought in of course, the livestock men. They probably [were the] first ones that came in. And they developed hay and feed and grain for local consumption. And in developing the ranches and farms, they started with developing the closest—and this happened on all streams; the land that was closest to the stream could be easily watered with a short ditch and a very low dam. And then the ditches sometimes were extended to reach out further or ditches were dug upstream and brought to higher ground. They began to utilize the water, the only other resource they had—land and water. And I imagine there was probably quite a few arguments and probably shootings over water rights and what-have-you. This is a natural thing, and I think that at that time,

the claims to water was probably registered in local courthouses shortly after the state was organized in 1864, and gradually that was taken over by the state engineer's office in later years, and water rights were established that way. They recognized those early claims, I think, in most cases.

Now, as to the people that were brought in here. The first ones, I imagine, were probably livestock men. And since they were far from supplies themselves, they had to develop some gardens and potatoes and this kind of truck crops. This is a thing that is kind of stands out: on all those old places that they developed, you always found fruit trees. you can go pretty near anywhere and they have a garden, and they have a orchard with fruit trees. There'd be apples and peaches and pears and berries, and various kinds. They always planted those. And there was always in Lyon County, same as in Washoe County, there's certain little areas through the thermal belts in there that grew better fruit than others. They were a little bit more frost-free than the general areas. Of course, they developed a reputation for fruit.

In the Dayton area, the early settlers, they were all mixture of all kinds, I kind of imagine, but eventually, Dayton became the focal point for many Italian immigrants that came over. Some, the ones that came earlier, got ahold of ranches and they brought out labor and employed 'em there on the ranches. And they, as I said a while [ago] were a little bit rough on the labor. And we kind of decided that it happened all over the United States, they took advantage of cheap labor.

A lot of 'em landed in Dayton (I'm speaking of the Italian population now), and they didn't like it there. Many of 'em moved over into Mason and Smith Valleys. The Carson Valley, of course, was settled mostly by people of Germanic nationality and Danes, northern Europeans, mostly. But Mason

Valley was—they weren't of Italian descent to begin with, but they gradually became—. So when I went there I found a lot of people of Italian descent that owned the ranches and farms there.

They were pretty well trained in the production of vegetables and crops, this kind of crops. They were also well trained in the use of waters, irrigation. They came from the natural thing, that they brought over their skills. And I've noticed this kind of division, that different nationalities kind of took up a little different type of agriculture. The northern Europeans generally, they went for livestock, pastures and this thing. The Italians and some of the other, they went into quite a bit of row crops, because they knew the use of irrigation water. And they developed a certain pattern there. So Lyon County became a very heavy producer of potatoes and onions and general crops of that type. And eventually, along with that, was the dairy.

And I talked to a lot of the old timers in Smith Valley, and this is a strange thing. There were quite a few people that came into that area from New England and quite a number of Canadians came in there, from Canada. They were very prominent in the communities.

In my work over there, I had occasion to go into the ditches when we were trying to consolidate ditches, you know, and look into them there. And I found they kept exceptionally good account of the records of the ditches there. Their minutes, I read 'em and some of 'em were very interesting. They had the same related problems seventy-five or eighty years ago as you practically have now. But they've handled 'em on a smaller scale. They didn't have government help and they had to do it as best they could. But some of 'em were really well kept records and could be read anywhere. They were all hand-written; they didn't have typewriters. Some fellow was

just the secretary and treasurer, and he kept a very close record of payments that were made, assessments, and every detail of the things they'd done. This was very interesting to me and it was also helpful to understand what their problems were. I found this in the records here in Washoe County also. I know that some of 'em have historical value.

Now, the settlement of Mason Valley, I think, started about 1862-64, in there. When they came in there, there was pretty wild country and there was no development of any kind and there was still Indians in the area.

The odd thing about it, one of the funniest things I noticed there—we'd talk about the trees that were along the rivers, but again, the most of the rivers were bare of trees. They didn't have too many trees on 'em. The foliage, you see—water is high in the spring and then they disappeared practically during the summer. There was no upstream storage and they changed channels in the spring, so that it wasn't conducive to a lot of trees. I can still take you to one of those ranches there at Mason Valley, where they planted, actually, fields of trees. They just planted 'em in a line, straight lines—cottonwood trees. I don't know if they planted 'em for firewood or for windbreaks or for fence posts, or what they did, but you can see 'em. I can still take you to one ranch that has this kind of a situation.

And they ran into water problems, too much water in the spring and then not enough during the summer. This was quite common, so that later on, they had to think of upstream storage, which brought on the organization of the Walker River Irrigation District there, and the building of the dam at Topaz and the dam in at Bridgeport. And this helped greatly to store water and to drag that supply through the summer. Nobody thought about pumping in those days, didn't have the equipment or the ability to drill wells, deep wells and pumps.

But they had to depend on storage water for growing of crops during the summer months.

Shortly after the settling there, I think, there was an influx of rather large operations. For example, the Miller and Lux operation came into being there. I'm not sure of the date, but I think they were probably in the '70's and '80's, that came on. And they bought up some ranches and they finagled for picking up government ground.

They even tell one story about Henry Miller, that when he came up there and there's a certain law that says if you can navigate around a piece of ground, why, you can claim it as you're the possessor. So he took a boat and hooked it up with a team of horses to it, and he went around to a little low ground there—just sloughs and swamps—and he went around. I'm not sure that this is true, but so the story goes, he was able to acquire great areas of land in this method. And I have a hunch that this is partly true. To a large degree, you may have heard it from others.

And then there was a big outfit in Antelope [Valley]. I'm not too sure of who started the first sheep in there but the Day family was early sheep raisers in that area. And they grew quite large and they had a lot of cattle that ran into the Bridgeport area and used the desert. There was Fulstone came in a little bit later, I think, and they're still in there, in the sheep business. And there was Yeager; Yeager was in there. And Virgil Connell was in there with sheep. And then there were quite a number of others that I'm not familiar with, but they did have a lot of sheep and cattle—of course, they've always been there.

There's another group of immigrants that came in there, and those were the Portugese. I don't know too much about their history, but they came in following the dairy. They followed dairy pretty closely and when I was in Yerington there was quite a number of

'em in the dairy business, and they're still in the dairy business; a lot of 'em are there yet. And they came in there, I kind of imagine, probably shortly after 1900; there may have been other before that, but I think they probably came about 1912, thereabouts.

When I went to Yerington, there was a little bit different characteristic of the peoples, even between the two valleys. There were more Italians in Mason Valley than there were in Smith Valley, probably; I mean a proportion. And they were more livestock-minded in Smith Valley than they were in Mason Valley. A little bit different, I should say; they were more stockmen. Most of the Smith Valley livestock men had holdings in Antelope Valley and in Bridgeport. And therefore they had summer range for their livestock, you see. So they took 'em up there in summer and then brought 'em back. And this was all driving; they were driving and they're still driving 'em by in herds from between two places. There was some of that going on from Mason Valley also, but it was more from Smith Valley. So, it was a little different kind of a character.

Fred Dressler played a part in there on the Plymouth ranch, which is now owned by Norman Brown. I don't know how he came in there. But he came in there quite early; I think it must have been during the time after Saroni came in and developed and went broke. And Dressler had connections with a bank, and he was well established in Carson Valley, and he moved over some of his operations over into Smith Valley. Norman Brown was his son-in-law. So they had large holdings there, some of the best land in the valley.

You asked me the difference between my working with the people in Lincoln County and in Lyon County. There was quite a little difference. The people in Lincoln County were generally Mormons, and they were

more family-oriented, probably, or church- or group-oriented than they were in Mason and Smith Valleys. They were mostly northern Europeans. And a few of 'em German-Swiss and this kind of population. But they were mostly north Europeans. Then you got into Mason and Smith Valleys, there was kind of a hodge-podge population there. They weren't of any one religion or any one nationality.

The agricultural lands in Lincoln County were much more limited. The people there were, their horizons and their thought was on a much smaller scale. Particularly, as related to land. When I came into Mason Valley and Smith Valley, they were larger units with more capital resources, more actually know-how, probably, in operating that. Now, they did operate large operations, cattle operations, in Lincoln County, but they were all desert oriented, very little feeding, and practically twelve months on the public domain. And in Mason and Smith valleys, you see, they'd gone past that; they'd gone into a private ownership and production of feeds for winter feedings. So it was a higher type of agriculture than you had in Lincoln County.

Well, when I was down in Lincoln County, as I said, the ranches were small, farmers were not oriented towards large operations and the finances weren't there. They'd gone through a heavy depression and there was just no finances. It was even hard to get bank financing. Well, when I went to Lyon County in 1943, I found my work a lot easier because if I developed an idea and I could go out to a rancher or farmer and sell him on the idea, he had the finances and the ability to put it into effect. He had the resources to do it. So it made my work much easier than had been previously. I found the land of milk and honey, actually!

I had talked to some of the very early settlers in Fernley; I think it was the Galbraith

family, probably. They came in there as operators for the SP railroad, telegraph operators. The earlier ones were there when the thing opened up. Of course, nothing happened in Fernley; it was just a plain desert until 1905, when the Newlands Project was started. Then they brought in water through the Derby Canal, and I think the first water was probably delivered in 1907 or 1908, thereabouts. And there again, there is some good ground, but no large bodies of good ground. There's quite a bit of alkali. It wasn't too level, it wasn't conducive to a big area, like at Fallon, but could be developed, So they developed along the bench lands there. It was purchased in, of course, in 40's and 80's, and 160 acres, so there was no large holdings. They made a fairly good success, but the depression in 1922 hit 'em pretty hard. And then of course, the 1932 and '33, '34 was very tough on the people there.

They developed, of course, dairy: there's some dairy left there yet. The height of the agricultural land that was put in there was probably about 3500 acres. So it was actually rather small. Looking at it now, they have the Nevada Cement Plant and the chick bed [diatomite] plant there. A lot of 'em are working in Reno and what little land that there was developed into farming, a lot of it's gone into subdivision [laughing] in one-acre plots. I was born in 1908, so that by 1915 or '16 I had been over there and began to know the area. And I went to high school there, at least high school there. So I knew all the people there, and their problems. It was never a big agricultural production area.

In my early years when I lived at Wadsworth, even as a boy I became acquainted with people in Fernley and I was well aware that they were having a terrific struggle to survive there, largely for two or three reasons. One of 'em, they had small acreages; second,

they didn't have the resources to develop or to go into higher type of agriculture; and third, there was a lot of poor ground there and they just didn't get the production. And the depression was on, also. But they just didn't have the income that would support the family in the proper way. So there was a lot of bankruptcies and a lot of people that were in rather dire financial circumstances. I was aware of that deal as a young boy and I had a certain feeling of pity for 'em, or something of that kind. I think this about covers it enough.

You asked me how they used the Agricultural Extension Service. I'll have to divide the county into several areas. As I look back on it now, we had the same program, but we did different things in different areas.

First of all, Fernley was kind of the outskirts and it was quite a little ways from the office. So we didn't get to it very often, or as much as probably we should have. Even in those days, I recognized the limited opportunities that were there. So I didn't have the physical or the numerical strength to actually cover the area as well as you probably should have, and so we kind of neglected it. We did club work there, but not to a high degree because we were too busy elsewhere. In the promotion of crops and this kind of thing, why, the area was limited, so in the crop program, they generally produced hay and grain. This was about the only two things that actually produced in there. So we didn't go into the pasture programs as much as we probably could have. But the conditions weren't right for that. And we didn't go into the produce—potatoes and this kind of thing. Again, the conditions weren't quite right. We did work on the introduction of new strains of alfalfa and this kind of thing. But we concentrated again, wherever we saw the opportunity of introducing new things. This is the way you concentrated with that

particular program. And there wasn't much opportunity for drainage or improvement of the irrigation system because this was under the Newlands Project so, this was naturally—you didn't have to do that in Fernley.

We did do quite a bit of work, as much as we could, on dairy improvement. It was small, but there were several producers there. And we did do some dairy work in there; we got 'em to improve barns, and this kind of thing. I was never really great on introducing new blood lines, keeping track of purebred animals; that wasn't my cup of tea, so I didn't press that. But they were pretty well aware that better livestock would make better production. I encouraged 'em, but I didn't follow through. After all, you're limited somewhat to your abilities and to the time that you have.

Now, the same thing happened, in a way, we kind of neglected the Dayton area. Again, they were limited to resources there; water made the shortage. They didn't have, at the time that I was there, a definite program for production, though. We did a little work in potato production, fertilization—this is using of fertilizer, we did do some work in that. New varieties of wheat and potatoes, and we did some irrigation with improvement work in there, ditches. But again, there we were limited to both in numbers of people and agricultural land that was available to the community, and in the type of agriculture that they have there.

So we concentrated most of our work in the Mason and Smith Valleys areas, which had much greater potential. There was a lot more people, there was a lot more land and the program that I could offer the people fitted more closely into what my particular knowledge is. This is why I went into a lot of drainage, irrigation ditches improvement, crops, dairy. I told you, I think, we went into

dairy quite extensively, and the production of good, clean milk.

You asked me about what part I played in the financial help for the farmers and ranchers. I was not too active in it. I was aware of the Federal Land Bank and the Nevada Production Credit Bank, and I helped a lot of applications and I was, of course, acquainted with the bankers and other financial people, people that have the finances. But I myself was not very active in that field. I worked with a rancher and I assumed that he took care of the financial end of it. Now, there were agents that did a lot more work in that particular field than I did. We'll probably talk about this when I want to cover the agents a little bit later on. But there were other agents that did work and went to work, they were in the work when the crash came in 1932, when the banks closed. They came in and helped organize so that they could meet this. It was easily a catastrophe, because there was just no finances. But by the time I got into the field, they were very short of money in Lincoln County. They just didn't have any money; we had very limited financial help there. I did work with five or six of 'em on livestock production loans. But to my knowledge, the government came in with the FHA—and this was a smaller group—and they had their own organizations. We worked with the agents on that. But they covered themselves. And they're still active. It was a lifesaver for many of the small ranchers. But when I got to Yerington, you see, it was 1943. We had already pulled out of most of the depression and the prices were up, finances were available through banks and other sources, so that I didn't play a very big part in that.

WARTIME PROBLEMS

When I moved to Lyon County in 1943, is when we began to have some problems with

[rationing and shortages]. We met at least once a month and sometimes two and three times a month, to ration gasoline, fertilizer, equipment, tractors, pretty near anything that had metal. And gasoline in particular we—this was always a problem to figure out how much gasoline a rancher needed to supply his needs so he could keep in production.

We had to figure out how much manpower was needed on any particular unit and we figured, I think, seventeen units was what was needed. That could be milking of seventeen cows or production equivalent to that. In that case, you had one man and then we had to judge if the owner was young enough to take care of the duties of the operating and management problems of operating the farm or ranch. And if he could spare one. This was a very emotional and very—well, it was, actually, a kind of an enforcement agency we became, in a way. Because if a rancher had more than one son, right away you questioned whether he needed both of 'em. And he hadn't gotten over into the total mechanization as yet; we still operated with some horses and the call for tractors and modern equipment came on very rapidly. And they were not available; trucks, pickups and cars were—they just didn't manufacture them, they just weren't available. So, this was quite a problem, created quite a problem.

The Office of Price Administration, of course, we created, I imagine, probably about 1941 or '42, in there, and they took over the rationing of food and shoes and goods of all kinds. But out in the country, you see, they turned that job over largely to the county agents or to the Triple-A staffs. And we were part of the Triple-A staffs. So it became our duty to do those things.

And this was very hard. You have the honest, legitimate user and rancher and farmer that actually needed those things,

and then you had the chislers that actually didn't need it. I don't know why they wanted so much gasoline or tires, for each county. I don't know how they did that, but they figured out, I guess, how many farms and ranches there were in the community and you had so many of 'em.

You often forced two unwilling farmers or ranchers to purchase a tractor in partnership. There just was only so many tractors, and you had so many applications that you just said, "Well, now we'll issue one tractor between the two of you so that there was enough acreage so it was kept busy. And this didn't sit too well, but you just had to sit it out and carry it through. There was some skulduggery in some cases, but most, I think, it was done very honestly, and as helpfully as we could.

We also worked with the draft boards, where we had to call upon young men. If the rancher or farmer had more than one son, generally, one of 'em had to serve in the army or the armed forces. And we figured out how many agricultural units he had, and if he didn't have over what was needed, why, we turned that over to the draft boards and they called 'em. This caused a lot of troubles, lots of—well, there was a lot of bitterness and a lot of appeals and all this, but you just had to take it.

Naturally, with all the young men gone and jobs offered in the cities at higher pay—the defense industries—we were left with very much of a shortage of labor on the farms and ranches. And this is when the Mexican labor importation started to take place. This started, I think, in 1943 or '44, in there sometime. And we carried that on for four or five years, I think. This is probably one of the finest programs that was ever devised.

We took those Mexican laborers; for example, in Lyon County, we had about two hundred of 'em scattered on the farms there, and they came in just greenhorn laborers, very

poorly dressed, and unskilled in practically anything except shovel work. And naturally, they had to be trained by the farmer and rancher. I think the going pay there was four dollars a day and board and room. Many of those men came in there and became truck drivers and tractor drivers and became very skilled and were a real benefit to the community.

And I think that they used to send their money back to Mexico. A lot of 'em came in—it was kind of funny—they'd come in with little bundles or kind of straw baskets for clothes. They had no clothes. And when they left, they had big suitcases and all kind of clothes [laughs].

They had a hard time with language problems. So they found out that I could speak a little Spanish. So I became kind of the *padron* and they'd come and look for the *padron*. They'd come up to the office and then they'd come to the house; they'd find out where I lived and then they'd come out to the house on Saturday nights and Sundays. So I was on duty practically, well, seven days a week. They trusted me with their money to get 'em foreign money orders to send to their homes. And if they came in on a Saturday, why, they gave me the directions for who they wanted it sent to and they wrote down addresses and gave me the money. And, I don't know why they trusted me that way, but—. Then I'd go up and get 'em money orders and get their money orders and send 'em out.

Another phase of it we filled in, we recruited from Las Vegas and Reno, young boys, high school boys. They were probably fourteen or fifteen years old, some of 'em—that young. And we had to run quite a few of 'em through. Some of 'em would come in and they just weren't worth anything, just just were of no value, we couldn't use 'em. And others were very good. We found several of

the boys made very good acquaintances with the ranchers and farmers and even after the program was all over and those boys were nineteen and twenty years old—some of 'em were going to college—they still came back to the community and worked for the same rancher. A lot of good friendships and help was obtained that way. Some of 'em would run away on us; we'd get 'em in one day and distribute them and the next day, the farmers and ranchers would start calling up, "Well, the boy left here, and I don't know where he is."

So we'd have to try to find him and get him back home. But most of the time, they'd work their way back to Las Vegas or to Reno, thumb their way. And we lost 'em that way. I don't know whatever happened to some of 'em, but this was this kind of the situation that we found.

We tried to recruit from the local help—the bindle stiffs, as it were. And most of 'em were alcoholics, or a good part of 'em were alcoholics. They'd come out, work for a week, three or four days, then disappear. And so you'd have to get another batch of em.

I can remember, we'd pay their fare—they had a recruiting office in Reno and they'd put them on a bus and then we'd meet 'em there and send 'em out, distribute them out to the ranchers. I had a man employed under my charge. His job was to meet 'em and distribute 'em. They came in during the the day when most of the time, they sit around hungry and you had to feed 'em and pick up the tab. And then they'd put 'em out.

I noticed two or three of 'em that they'd come out about once a week, at least—anyhow, they'd come out and stay three or four days—enough to earn enough money to get their fare back into Reno, and have a little spending money, and then go back down and hire out again and get another bus fare back

and forth. There was two or three of 'em that pulled that on me four or five times. Finally I just got tired of 'em and I cornered 'em and I said, "Now, I don't want to see you out here again. Don't you ever come out here, because I'm going to run you back to Reno, and I don't want you out here." And they didn't. But they pulled this on you. We spent more money transferring 'em back and forth than they were worth. This happened, but this was only a source of supply of labor— had a lot of conferences on how to handle that.

The providing of farm labor for ranchers and farmers presented many problems. One of 'em was disease and sickness, accidents. And you were called on pretty near any time day or night. Lyon County always had a farm labor man who was very capable and they took care of the ordinary things but occasionally, they had some problems [which they] just had not run into and they would get me into the act to help solve 'em . You had a set of rules and regulations, but a lot of times, you get some problems that just are not covered by rules and regulations; you just have to use the best judgment that you could.

There was a shortage of doctors and of hospitals and these things. We had to do it as best we could.

There was a lot of use of the local boys, high school boys and even grammar school boys, that we used on the farms. A lot of them became very good tractor drivers and equipment operators, and I presume some of 'em probably followed the trade after they grew older. But, as I mentioned before with that Mexican program, while some were very objectionable to them, I think that it was one of the finest programs.

Here we're getting labor, we paid 'em , and they learned a lot of skills, they took back to Mexico skills that couldn't have been taught by the Mexicans themselves. And a lot of 'em

bought tools. For example, they'd buy saws and hammers and this kind of thing, and they'd ship those back into Mexico. Package them up, and come and get me to help 'em ship 'em . And they were sending money home so they could build a home or—. And this was a foreign aid program that was probably superior to anything that they ever had. It probably caused some more problems later on, because a lot of 'em became wetbacks and stuck around and caused us problems elsewhere. And we're still having trouble with wetbacks, but at that time [it] was a blessing.

Some of the Mexican boys came into the communities and they got acquainted with the Indian people and some of 'em married the Indian girls, and were eligible to stay in the United States. Some of 'em are still here, I presume.

You asked about the other duties, wartime duties that were imposed upon the agriculture agents. In order to help the war effort, of course, we preached production. Production was the big end. That was tied in with more use of fertilizer and better varieties and better methods. We were shortchanges in equipment and gasoline and those tires. And this tied in with the rationing; we were very active in the rationing. We were secretaries to the—I don't know what they called 'em , but they were rationing committees in each county. The farmer that made an application for a piece of machinery, and he had to prove it. He wanted an extra tire, he had to prove it. If he wanted so much gasoline, he had to prove it.

Many times, I know that we made errors. We gave some of 'em —the good liars—too much gasoline or too many tires. Probably the ones that weren't so efficient in pleading their case, probably we shortchanged a little bit. But we got by.

There was some promotion of victory gardens and all this, but most of the ranches

and farms in that time produced little gardens; they had gardens. We preached it and worked on it through the 4-H Clubs.

I think it actually did some good. They promoted at least patriotism and total war effort. We ran into a lot of so-called shortages. I think we understand now that many of 'em were artificially created. But we had a sugar problem and coffee problem and a fat problem, butterfat, and meat problem—we had the meat stamps. And oh, it wasn't too tough.

I think probably one of the roughest ones was shoes, getting shoes. If you remember, the shoes were rationed. And we sent, I don't know how many million pair—billions pairs, I guess—to the Russians so that they could fight on the eastern front. That's where our shoes went. But I guess they had to have warm feet and good shoes, too. Otherwise, we'd have to do the fighting. They were a little hard to get. And clothing, not so much in clothing; I think we got by in clothing. Shoes is about the only thing that I can remember that was a little hard to get in a way.

There was a shortage—of course, they claimed there was a shortage of steel and steel products. So what we did, I put on several campaigns. Put one on in Lincoln County, and I put one on in—several of 'em—in Lyon County, where we gathered scrap iron. We didn't pay for any of the iron; I think the farmers donated. And we got out the—well, Lions Clubs or service clubs and a lot of that went into doing charity work for the different clubs. And we gathered quite a bit of that.

And after the war, when they were trying to ship grain, beans, and stuff to Europe to help feed the people there, they put on that campaign and they assigned certain quotas to each county. And I was really surprised at the amount of food and grain and stuff that was donated. I think the state was supposed to gather one carload. Why, we had more

than a carload of that stuff gathered right in Lyon County! People came in with barley and wheat, and—with grains, mostly. But we had kids donating corn flakes and this kind of thing. I don't know what they ever did with it; it couldn't have been [saved], but the wheat and the barley and that stuff, well, we had a whole carload of that.

I can't really remember the amounts they brought in, but it was really gratifying, in a way, that some ole rancher, farmer out here that you didn't think had so much sympathy for peoples in the world, when we announced that program—we had a collecting station, over at Mason, I think it was—and here they'd come with a few sacks of grain. And some of 'em even up to four or five tons! And they gave it willingly and gladly and mentioned that they had a lot of compassion for their fellow men that were starving. I know we put out more than one carload right in Lyon County.

We were talking about scrap iron drives. We generally helped organize 'em through service clubs. So on a Sunday, we would go out. We had the ranches pretty well posted, and they wanted to know what was going to happen to the money and that. A lot of it went for the blind. The Lions Club was particularly active in helping the blind people. But there was always a good purpose for it. And the money was not wasted. So the farmers and ranchers gave—donated.

We didn't have to buy the steel, but we had to gather it up. So we'd get the county equipment or somebody that had a truck, and a group would go out. Cast iron, for example, was one of the choice things. So we had sledge hammers and we'd walk up to an old mower and knock it to pieces, or a old rack and knock it to pieces. We even burned up some old wagons and threshing machines so we'd get the scrap iron out of it.

And in a way, it was vandalizing, but in a way, you know, that was one of the best clean-up jobs of forty years of—I've always called it forty years of accumulation. Human accumulation was disposed of in a very orderly manner. This was one of the best clean-up jobs that I ever helped do. All these, you know, when you go up to any ranch or farm they always have the scrap pile where a piece of equipment that became obsolete or partly broken down, and they hauled it out there. They'd vandalize it themselves for pieces and parts. And all of a sudden we came along and just cleaned up a lot of junk yards. We just cleaned a lot of 'em .

One of the hardest things during the war time was when they cut off all production of automobiles for—I don't know, it was three- or four-year period there. And you just had to make do with what you had. I don't know how we survived that but there was no new cars coming on the market for—I think it was three or four years. And that was when the secondhand car really became a valuable piece of equipment that you The garage man, he was under kind of a strain, too, because he had no help. The garage man didn't have the mechanics and the parts. And this is quite a little job to keep operating. Of course, we didn't have very much gasoline, you didn't travel as much so—. And there wasn't as many young folks traveling and so there wasn't very much of a problem on the highways, let's put it that way. I don't know what we'd do now with the travelers we have on the highways these—. But it sure cut down the heavy traffic.

WATER DEVELOPMENT AND DRAINAGE

The first ranchers and farmers that went in there, I think in the early '60's [1860's] were the first ones that went in there. They did naturally what all ranchers and farmers

do when they go into a new area, they pick the land, close to the river, and dig a ditch and build a small dam and then the ditch is extended and enlarged and more land is taken in. Then somebody goes a little further out, a little higher ground, and they have to go a little further up on the river and put in another ditch and another dam. And this works itself way up into the higher areas. And this developed a rather strange irrigation system, which, just looking at it, you would almost say that it was very primitive and very inefficient. But actually, the location of the valleys and the location of the ditches, and the use of 'em , made it probably the most efficient system in the United States. In other words, the higher ditches dropped the water out and it was used on higher ground, and then, as it either found its way into other drain ditches which were used to irrigate from, or it came back into the river and was used by ditches below the outlet of the drains. So this water was used probably three or four times, before it ever got out of the valley.

It did create some problems. The ditches that came later and went up on the slope higher created a drainage problem for the lower lands and an alkali problem to them. For a period there, starting, I imagine, in about 1920, the way it looked to me, until they got to putting in more drains, actually [the system] took a lot of land out of production in the Wabuska area and in the lower areas along the river. Actually, this was the best land, but due to the water problem and the alkali problem it was not very productive—some of it that I saw. So this is one of the problems that I saw. One of the challenges was there to put in a system of drains and in agriculture improvement in irrigation practices that helped correct this. And I think I did, to a large degree, and I'm kind of proud of some of the projects that I did there.

The other thing that was happening was that about this time, the type of equipment changed. Until the 1930's, it was pretty much horse equipment. Only the flatter pieces of ground and the ones that were easier to bring into cultivation and irrigation were used. There was no large sloughs or swamps built up, or no hills worked down, so that the fields were small, the ditches were run on contour. Along about 1940, we began getting heavy equipment that could do leveling. And this is where the ASC or Triple-A played a very important part, because one of the practices, the conservation practice, was to do land leveling and ditch and drain improvement. And this presented a very good opportunity to get the farmers and ranchers to really level their lands, and get more land on production and better production and make it easier to cut down on the total labor requirements and able to handle larger equipment and make it easier, cheaper production.

I saw this, and it was already going on when I got there. That period from about, let's say '45 to about 1960 or thereabouts, I think, was probably the biggest increase in this type of thing. It actually got so fields that the ranchers had leveled in, let's say '45 or '47, were releveled in '57 and '60 and made larger and more productive.

One of the things we tried to do was consolidation of ditches. Sometimes, ditches ran right side by side, and they irrigated more or less the same area. This is very, very, difficult—very advantageous, but very difficult—to get the owners to consent or to cooperate in this, or [in] combining dams. They were just very jealous and very proud of the privilege of having their own ditches. And it was very hard, even with the government financing. Provision was made through the Soil Conservation Service and other private surveyors and planners to consolidate these.

They just didn't want to do it. We did get some of it but it was very difficult.

When we're really up against it is when something happened that they could see that they either couldn't continue the same way, or it was costing 'em too much. If you could prove it in dollars and cents, you could generally get by with it. And then you'd find the more progressive ranchers and farmers would go for it. But some of the older—not necessarily oldtimers but some of 'em that were probably younger men or just as young men, but they had been, again, versed in the art of saving money. That is, not spending. If you made \$10, you'd put it in the bank, or you put it into cattle or you put it into something productive. You didn't put it into capital improvements. This was very hard to do.

The big breaks we got in that was on drainage. There was whole sections that had become alkalied and high water table, and they just could not make it any more. Many of 'em went broke. They abandoned farms and ranches. So then this gave us an opportunity that would actually show what could be done. And we took the opportunity and, I think we—well, I know that we more than doubled the drainage ditches in the two valleys over a period of about seven or eight years there. And we did consolidate several ditches. And sometimes we'd meet opposition from the small operators, sometimes from the big operators. I generally met more opposition—well, no, it was about six of one, half a dozen of the other. But in some places you'd meet it from the big operators and other places you'd meet it from the small operators. I've even had some big operators come to me and say, "Well, we've got so many thousand dollars that we want to spend; you get this project going."

Sometimes I was able to get it going and on two or three of 'em, I just had to walk off and leave many thousands of dollars unspent,

because I couldn't get 'em together. They couldn't get together themselves and we acted as a kind of a catalytic agent to try to pull that together. We had a few battles amongst ourselves, between the Soil Conservation Service and how they were supposed to do it and how they wanted it done, how we thought it should be done. Not that we were engineers, or that I was an engineer, but you have to cater somewhat to the desires of the people that were doing it. And sometimes you get engineers that just won't cater to that. They just won't alter their plans—this is the way it is, and this—we have troubles on that score.

One of the really big projects that I'm really proud of happened down at Wabuska. They recognized it even before I got there, or about the time that I got there. They had a drain started just north of and west of Yerington; it's in the Wabuska area. It was designed to carry the water back into the Walker River, but it cut—it didn't quite go clear out to the end of the ranches in Wabuska. They got into a big battle amongst themselves. Part of it had been done. And they had, I think, the cooperation of the railroad because the railroad was having water problems there with their roadbed. And they got into a big battle and they got a court injunction which stopped the digging of the drain. And so that laid idle, or laid the same way it was, for four or five years. And then finally, they put that water coming down through the Churchill Canyon, that wound up into the Carson River. But we eventually revised that. There was a plan, more or less following the same general location of the drain.

Now, that drain was first thought of and surveyed by a local engineer. He also happened to be a member of the irrigation district board. He also had some land down at the end of the drain, which, if he kept the drain on high ground, would irrigate the land

on which he was to empty out to. So this was the real problem, you see. Nobody would really say this. Or, I think they all suspected what had happened, but this was the fight that had brought it on. So this was a very difficult problem to tackle.

So now, the Soil Conservation came in there and surveyed the drain along about the same lines. And they put it up to a vote for the local drainage improvement district, under the Walker River Irrigation District. I kept out of the fight. The election was in early December, if I can remember right—it was about the ninth of December. And in order to assess the payment of the loan that had to be floated to get the drainage through, it required a two-thirds majority, to be carried by a two-thirds majority. Well, that was actually beaten by two-thirds; only one-third went for it.

So then it was such an important project that I went to the irrigation district board of directors, and I asked them if I could work on it. If they'd provide me a little engineering help and if they'd give me their blessing, then I could probably work this out. So they said, "Yes," and they kind of smiled and laughed, they says, "Well, if you can win this one, hats off to you!"

I said, "Well, if you'll just leave me alone, I think I can do something about it."

I had to get in touch with a few of 'em down there, and I gathered 'em together, and I proposed a different alignment on the drainage. Then I found out what they wanted. In other words, I went to the people to find out what they wanted. They told me, they says, "If it goes this way, we'll back it."

So then I got the district to put up enough money. They had some money and it was available for this survey. I got Mr. Walter Reid from Virginia City to survey the different route entirely, which was just south of Wabuska. It required, I think, about ten or

twelve miles of drain ditching, digging quite expensive. But I got that done and I broke it up into segments so that there'd be two or three farmers or four farmers on one particular segment of the drain. And they cooperated through the ASC, and got some payments out of 'em . So it was really a bitter struggle.

I was severely reprimanded by quite a few people, but I still had the backing of the district; fortunately, I still had the backing of my director and he pulled a few people off my neck. The odd thing about it [laughs] I think, the election was on the ninth—they turned it down completely on the ninth of December—and on the eleventh of January, there were two draglines working on the job [laughing]. And then, we had planned for \$50,000 and we actually spent \$55,- or \$60,000 on the project, and it's got a lot more drains.

And after it was all over, the people that opposed it or that were against it, came to me and apologized, told me I'd done a fine job. But I was still a little bit bitter about it because that hurt; that was tough. And if I hadn't of won that, I'd of been a dog instead of more or less the hero. But I did. And this actually affected about 10,000 acres of ground. I came to [C. B.] Hutchinson; Dean Hutchinson was the dean at that time. And he had a friend, his name was also Walter Reid, and he was probably one of the best drain specialists in the state of California. And he had him come up here and we were supposed to pay him something but the University stood his expenses—the Extension Service guaranteed his expenses. And all that I could gather for him was \$125 as a [laughs] payment for going out on this job, but that's all the money that I could raise. And he took it and he laughed about it and he says, "It's a little bit on the-small side, but it—"

I told him, I said, "Now, a lot of people here, this has been a tough fight and I don't want to hurt anybody. But you write your

report as you see it and try to be as kind to the opposition as you can.

And he did. We gave them all the facts and figures that we could. He actually didn't recommend a deep drain; he actually recommended a surface drain, with wells. He wanted to put in wells. Well, I knew that we had to go for a deep drain, because I couldn't get anybody to dig any wells and use it. Now they're using 'em , now there's very little drainage water gets out of there, but in those days, there was plenty of free flowing water, so nobody went for the drains. And they didn't think about developing some of that land with pump water because the pumps weren't popular in those days. So we had to go for a deep drain, and we did go for a deep drain, about twelve or fourteen miles of it.

This was a big project, big drainage project, and I say, it affected probably about 10,000 acres of ground. And as a result, that Wabuska area has come back into a lot of good production.

We had other drains, of course, in Smith Valley and the "Colony" area. We had enlargement of ditches. Well, as I say, I think we extended the drainage system about two-thirds—no, we averaged about twice as much drain as there had been. And in a way, this is bad, because it could have been done with pumps, you see.

I tried to get the irrigation district to dig ditches, to sink wells, establish pumps, and use the underground water supply to supplement the river waters. Put those wells and pumps into where the irrigation ditches were and pump directly into the irrigation ditches. The water was good, as good as the flowing water, and I could see no difference. The cost was within a very small amount of what it actually cost to store the water in Bridgeport or Topaz. And you were adding to the water supply and providing drainage at

the same time. I tried to get the district to see that picture and do this, but they just wouldn't do it. After I left, I think it was 1955 or '56 we had quite a little drought and they sunk over a million dollars worth of wells in the area.

I had started to preach this and I actually had gotten one man to put in a well. But he hired a well-driller that didn't know his business and he put in a poor well. And it cost him about fifteen thousand dollars and he didn't get a well out of it. It caved in on him, and this killed it for three or four years, you see. I wasn't so much of a hero on that one, because it cost the man—he didn't condemn me, but I had coaxed him into doing it. He needed more water and he had a drainage problem. I tried to combine the two of 'em , and he went for it. But the well was poor and this held it up for three or four years, until they got a drought situation.

Then everybody went in and dug their own wells, which was—the district could have done this. They were in the water delivering business and they could have been cheaper, better and in a much more efficient manner than it is done now by individuals. Each of those wells cost fifteen to twenty thousand dollars. Add that to the other costs, and you run the price of the production all up. Not that you wouldn't have the same total overall price, but you'd have better space, and make better use of the water.

Another project that I'm kind of proud of, that's in Mineral County down at Schurz. We had done some work with the Indians down there. And George Linscott, who was a Triple-A man in a Lyon County, was very good to me. He was in charge of the program when I went there. Eventually, he became secretary. We separated, and he became secretary and the field district manager, or whatever they call 'em , county manager. But he always acted as kind of assistant agent and

helped me. He not only did his work, but he helped me do mine, and I helped him. So we were able to get a lot of projects that we wouldn't have otherwise been able to do.

Anyway, in Schurz, I had been down there and we had done a lot of spraying for control of flies and other insects, lice on the cattle there. We had done a lot of work down there with them. In fact, we sprayed their whole herd two or three times a year, for grub control and fly control, lice control.

So in my wanderings down there, I got down on what they call a lake pasture. They had a little irrigation system that ran from Weber reservoir down through the regular ditches and went down on that sand on the east side of the river. I happened to go to the river and I saw quite a stream of water going down through the Walker River and going into Walker Lake. And I wondered why this couldn't be ditched out and used on the pastures for increasing the pasture supply for the cattle there. Now, if a conservationist or a water man that was interested, particularly in Walker Lake, would look at this project, he would say well, that was wrong because I think that water should have gone into Walker Lake. But I didn't look at it that way. It should have gone on the pastures, produced more beef for the people that needed it there.

Well, anyway, I got an engineer when I was with the Indian Service [man] and I explained my proposal to him. And it had been tried to a degree; it had been tried by the Indian Service there years before, I found out, but it hadn't been successful. So he figured out the canal that would come out from the river there and would go out through those—it was actually pretty much sand, it's seashore, or lakeshore. And it covered about four or five thousand acres of ground. It would cover that much. Again through the ASC funds and the tribal council down there, we got together and used

this engineer's plan. He had figured to divert a given amount of water from the river and then by gradually making the canal smaller as it went further, and then putting in a couple, three drop dams in it, that you could actually get a kind of a self-distributing water system out on those flats there that would require practically no labor to get that irrigated, and yet do a pretty good job for what we wanted to do. Well, I knew that it wouldn't quite work that way, but it sounded intriguing enough so that when we went after it, we got the canal dug.

One of the funny incidents that happened there, we ran out of money and we didn't have a way of getting the water out of the river. And the ASC wouldn't pay unless you get water into the canal. So I coaxed the Indian Service to provide four cases of dynamite, and then I coaxed some of the engineers and labor force over there. I got me a powder monkey that said he knew all about handling powder. And we went down there and blasted the bottom of the ditch for about—it wasn't kind of the best job, it got the water going, we were able to collect the money for it. Blasted about a half mile of ditch down there [laughs]. We were in a hurry and if you can't blast by, if you got water and moisture enough in the ground, you can just detonate the first stick of powder and the rest of 'em will all detonate naturally. But this fellow, this powder monkey knew his business and he used wire and he detonated the whole works. And we got that done. But, after we went—we going home he says, "I'm going to give you a little advice," he says, "don't fool around with powder. You're too damn careless."

So I haven't done any of it since. But we were in a hurry and I would jam it down [gesture] and it didn't explode. But anyway, we did.

The following year, we had to go in and put in some sort of a diversion from the

Walker River into the ditch, at the point that we had figured. And I thought about it, I didn't know how to do it, and I called on every engineer that I knew of, both private and public. They all came up with schemes and nobody could tell me how to do it. Because it was sandy and the river—it didn't have to raise the water very much, but it was just a hard problem to handle.

So I went down there and looked the situation over and I took my shoes off and waded out there and sat on the bank and counted and just cogitated a little bit. The water was a little bit swift, so I got me a willow and waded out into the stream and I discovered a rather strange phenomenon. There was about a foot of sand, and under the sand was clay, a thick layer of clay. And when I discovered that I says, "I've got it solved."

So I took my stick and I drove it down through the clay and I couldn't go through it—you know, it was deep. So then I followed the stream down a little ways and I found out where the waters—you see, it runs rather rapidly there. There was a little fall and then it washed out the sand and it washed the clay where I could see it. And I could see that it was five or six foot in depth. And I said, "Well, I've got to do it."

So we went back and we arranged for an operator that had two carryalls, and I got the Indian Service to furnish a bulldozer, a tractor and a bulldozer, and I said, "Well, we're going to put a pad of rocks down, in the river,"

So we looked around. About a half a mile away was a pretty good pile of rocks and types that we thought would work. So we got a fellow by the name of Forrester, had these two—we got him down there the night before, and I sent George down to kind of supervise it. And we went down and they got started and they went over the road a couple of time and lo and behold they—. It was kind

of boggy in spots and they couldn't get by, so they called me and I went down. We couldn't get any help from the road equipment, there wasn't anything around. So we found another road, I routed 'em over the new roads, and we hauled enough rocks into the river that we actually created a dam. By using the tractor and the bulldozer to push that out—just another guess—we squashed those rocks down through this layer of six to twelve inches of fine sand and kind of embedded them in the clay, so they had a pretty firm foundation. I had him spread those out thinly and squash 'em down good, and then another layer on top. By Jimmy, it worked I think we put it in about 1950—a little earlier than that, actually. That lasted until the big flood in '60 or '61 or somewhere in there. Then there was the little washing and they repaired it, but it's still working.

I was kind of proud of that one, too—I had my neck out forty miles. I don't know how I figured that one out, but I figured it out. I was in trouble, I had to do something. I couldn't get anybody to help me; none of the engineers would back me. They said, "We don't know, we just don't know." They had some good engineers at the Indian Service, but they wouldn't get their neck out; they just let me worry about it. So I did it the way I wanted to. And it still's standing. This is braggin' a little bit, probably.

Now, the strange part of it is that, after we got the water out on those sand flats, they scattered some seed and they did grow good pasture. And they started some strawberry clover out there. It wasn't level by any means; it was ponds and sloughs and swamps. It made a wonderful ground for ducks and geese. But we discovered a while later that actually, it wasn't on the Indian reservation. So we had assumed all the time, the Indians, too, had assumed that it was on the Indian reservation,

but it was beyond the boundaries of the Indian reservation [laughing].

The Department of Fish and Game, at the urging of the sportsman from Mineral County, kind of tried to take that over as a management area. And then there was a reaction there, and I think that the Indian Service was able to get the congressional delegation to come into the picture, and I think that they extended the Indian reservation into Schurz [laughs] to cover that area. This is some of the funny things that happen to you. We weren't too careful with our legal description [laughs].

Smith Valley had pretty much the same history as Mason Valley, only they developed just a little bit different. There was several organizers there. One of 'em was Saroni, that built the Saroni Canal. I don't know where he financed from, but he came out of California somewhere. And they built what is known as the Saroni Canal; it was rather wide, rather a large ditch. It came out at where the entrance of the West Walker comes out of the Hoy Canyon, and took in some of the higher ground there, probably some of the best ground that was in Mason-Smith Valley now. Eventually, he went broke. But he was the organizer, and brought water in there. And some of that land was quite awhile in developing later on.

Part of the water came to the—well, I think part of even the Plymouth Ranch, which was owned by Norman [D.] Brown, [Plymouth Ranch] was irrigated from, of course, from Plymouth ditch. But this was higher than the Plymouth ditch. There was a flood of refugees, as it were, from around Bishop when that water and land was purchased by Los Angeles. Quite a few of 'em moved into Smith Valley. The Grantview area was one that was developed by the Saroni ditch. Fulstone's owns a lot of the area that's irrigated from the Saroni Canal.

It was built like all other ditches, on the contour. When I went there in 1943, there was talk of trying to improve it. They had done some improvement and under the ASC program, we made the—the ditch made several big cuts into the bank and enlarged it and modernized it. We managed to work on the dam, and I was instrumental in helping with that. I was also instrumental in helping with quite a few enlargements and improvement of some of the other ditches.

The Colony ditch was put in. This is the high line ditch on the west side of the river. And I think the Days had a big part in there, in developing this. It covered a lot of the higher ground in the Colony side—called the Colony side.

These two higher canals were necessary because this represented the irrigation on the bench lands, as it were, not the immediate bottom. As I looked at it, it did cause some problems, because the waters from the upper lands, the drain waters and the underground waters drain down into the lower valley, the bottom of the valleys, and caused an alkali to raise and caused the water problems. We did do some of that drainage to correct that, put in several drains there, when I was there to correct this.

This is, of course, recorded far better than I can, but we'll just mention some of the facts that went into the Newlands Project. Of course, and we have to give credit (or discredit) to Senator Newlands for creating the Newlands Project. There was not previous knowledge of reclamation projects. We didn't have the soil expertise that we have now. We didn't have the background of information, or couldn't see into the future. Otherwise, probably it would never have been put in. But it was put in. So we'll have to take it from that standpoint.

This is all recorded elsewhere. But in order to assure water for the Newlands Project, they had to establish the water rights, on the Truckee River and the Carson River—mostly on the Truckee River, because they depended on the Truckee River for a good portion of their water. So in 1905, I think, is when the Department of Interior, on behalf of the Newlands Project, actually filed a beneficial use of all the waters of the Truckee River over and above what was already claimed. Now, they did it in rather an odd way, I don't know why they didn't do some legal maneuvering to prevent this from happening, but they did do it in this way. In other words, there was a lot more water claimed, filed for, on the Truckee River than there was actually beneficial use made there of.

So the first thing that was done, they hired (and I mentioned him before) Mr. Osgood to make a survey of the actual land that was being irrigated on the Truckee River. He did this in a course of two or three years or five years. (I don't know how many years it was.) But they then filed suit against the Orr Ditch *et al* and it included all the water owners of the Truckee River. The federal court made the farmers in the way produce evidence that they actually had in cultivation so much land. Then they awarded 'em all the way from three and a half to about four and a half acre feet of water per acre. Other claims that they had on the water were disregarded.

You see, they allowed the claims on the lower Truckee for the Indians for about 16,000 (I think) acre feet on the bottom lands and about 16,000 acre feet—total about 32,000 acre feet for the Indians on the Pyramid Lake Indian Reservation. And this was only recognized as *beneficial use* being only agriculture use.

Part of the troubles that we are going through now date back to that time, when

they made no recognition of return flows for maintenance of so-called ecology, maintenance of Pyramid Lake; they made no allowance for that at all. They also probably created, in moving the water from the Truckee watershed to the Carson watershed, they created two problems. First, they short-changed Pyramid Lake and the Truckee River watershed, and then they added water to the Carson watershed, which helped dry up, reduce the Pyramid Lake. Winnemucca Lake actually dried up. I think part of that was caused by the long, prolonged drought that we had. But, then it created in the Stillwater area, rather an unnatural situation, in which the waters, the overflow waters, from the Truckee River raised the waters in the Carson Sink, and in the Stillwater area and created a wildlife refuge, where ducks and water fowl flock, which is actually probably superior to the one that was in Pyramid Lake and Winnemucca Lake for waterfowl and birds. But it was inferior as far as the fishery was in Pyramid Lake.

And now, they also didn't look over their land very well, because they claimed that they had 204,000 acres of land that could be irrigated under the Newlands Project. And they claimed waters of approximately four acre feet to the acre. So, this made a total of over 800,000 acre feet of water, which was more than the total flow of the Carson and Truckee Rivers combined. I think that the Department of Interior in the Newlands Project probably made a error there, when they said, "This is our water and we will hold it," when actually it's come down that there's probably about 70,000 acres of land irrigated in the Fallon area, and under Newlands Project, probably 25,- or 30,000 acres in the refuge.. There's also standing water for a waterfowl and bird refuge. So we're in a big lawsuit now with the Paiute Indians over who

owns that water, and they've won the first round. I don't know how the second round's coming out. Again, this is wrong, because in a way, if they own the water, they should be entitled to it, of course. It wasn't recognized at that time. And we're trying to make restitution there in a way, I think. The judges in the courts are looking out as restitution to the Indians.

The other situation developing that we have, a tremendous population building up in the upper Truckee, on the Truckee Meadows and in the Tahoe Basin, which is on the Truckee River. And we have, of course, some development on the Carson River along the same lines. But you can see that the problems from now on, for the water and the disposal of sewage and effluent from the Truckee Meadows, is going to create a problem even probably worse than was created by the Newlands Project.

The other big error that was made in the Newlands Project was when they figured that they had plenty of water to construct a power plant and develop power at Lahontan. This was totally uncalled for, because it probably helped pay off the indebtedness down there, but it was a tremendous wastage of water. It was used as power in the winter. It was just used for power and sent on down the river into the Stillwater area. It created waters for wildlife, but it also probably created some drainage problem there. Now that this has been discontinued, this will probably help correct some of the situation of the extra water that is needed in Carson Valley.

I'm rather sorry that this lawsuit has been brought on so rapidly and viciously, because I just feel that some of those problems would have been corrected when the task force in 1964, I think, made the recommendation that only 400,000 acre feet of water in total would be allotted—406,000 it was— to the Newlands Project, and that the rest of it remain in

the Truckee River. With some increase in precipitation, which we are having, I think, when we come out of this long drought—now, I think that Pyramid Lake would have naturally raised some. It has raised some and it will continue to raise. I don't feel dispirited or downhearted about the chances of the long life of Pyramid Lake because I feel confident that we're going to have an increase in rainfall for some time and that better use of the water will be made and not as much of it will be transported. If I am not right, and this drought—this general drought all over the West—continues, Pyramid Lake's going to dry up naturally anyhow, because if we look back 10,000 years ago, we had Lake Lahontan, which covered 8,000 square miles I think it was, it's dried up, except for Walker Lake and Pyramid Lake. So you just let it go on another five or six thousand years and there just won't be enough even for drinking purposes, for the few people that will be left here.

POULTRY, LIVESTOCK, AND MILK PRODUCTION

Another product that was common in the area, production that was common in the area, was turkeys, which they started to raise—I'm not sure, but they must've been in the '20's—probably before that—and practically every small, every ranch had a few turkeys. Sometimes they hatched 'em out themselves—raised the eggs, and hatched 'em out themselves. Then they got into ordering the turkeys from hatcheries, and later they almost went big, that is that some of 'em got up to raising five or six thousand in flocks. But then by that time, the method of raising turkeys had changed. The method of feeding, the type of turkeys have changed. So when I came into Lyon County, there were probably twenty-five to thirty growers at that time,

with five or six of 'em being over 2,000 turkeys. And this was in 1943, and we raised turkeys there until about 1950. And then they disappeared entirely.

I think you would find the same pattern in Fallon. Pretty much the same. And to some degree in Lovelock. Churchill County and Lyon County were very instrumental in bringing in cooperative marketing through the Norbest Turkey Growers Association. When I came there, we were still shipping under the Norbest Turkeys.

We were shipping 'em what is known as New York dressed. They were not eviscerated, they were just plucked and chilled and shipped out in carload lots, and boxed in crates that averaged about a hundred or a hundred and ten pounds. Then they went to the markets and they were sold, of course, to the housewife, still with the entrails in the bird. About 1947 or '48, they started eviscerating 'em in California. And, of course, this took an entirely different kind of a plant. And finally the Walker River turkey growers made some crates and hired trucks to transport 'em to California, for eviscerating and marketing in that way. You still sold through Norbest.

In the financing of the Norbest, they withheld a very small percentage of each year's crop, you see, and then they paid it after ten years. And when I went there, we started to get some of those repayments and we had to go back and figure out all the growers that were at that time and try to distribute the money.

And we found that after ten or twelve years, it was very hard to reach the person that was entitled to the refund. I found that about thirty percent of the people had—we couldn't locate 'em. They either died or we had lost the addresses. And I thought that this was really kind of strange, but after thinking it over a little bit, this is not strange because

in ten years, generally, except for a few that remain in a community, there's a big change in the community. So we wound up with, I don't know, the Walker River turkey growers wound up with not being able to distribute oh, a few thousand dollars that were due to people. I don't know what they ever did with it, but I left it there in the treasury. And I imagine that they managed to distribute it some way, because there was no legal way of doing it. We checked it out legally and there was no legal way of doing it. A lot of people had died and the estates had been settled and this was never turned into the estates, you see. So it was practically impossible to do.

The one other product that is still being produced, and was produced probably more abundantly at one time, was honey. In all western Nevada, they had produced a very fine quality of honey from the alfalfa and sweet clover blooms in the valleys. And they produced at one time mostly comb honey, and then they went to extract honey and there was quite a little market for it. And they organized, I think, the honey growers, or honey producers—honey producers, I think. They used the Diamond brand, I think. And they actually got it organized. I think the leader, one of the leaders, in that was Prof Cline, L. E. Cline. He worked with the producers for a long time. It was successful for a time, but they didn't seem to be near as successful as the turkey growers.

Poultry was tried two or three times and there's always a—that is, I'm speaking of chickens; every ranch and every farm, had its poultry house and they grew fifty to several hundred hens, but they never got big. None of 'em ever got big. Oh, some of 'em went up to two or three thousand hens, but the industry never really got big.

One of the livestock industries that was quite large was the hog production in Lyon

County, particularly in Mason Valley. They kind of raised half wild hogs there. They were easy to produce; they produced a lot of feed there [laughs]. There was some grain and then they used cull potatoes and alfalfa. They would pen them during the summer when the crops were growing, and then in winter, why, they just turned 'em loose. And they [laughs] wandered all over the ranch and they gradually picked 'em up.

I had rather an odd story, of some of the early growers on hog production. Mr. [Frank] Charlebois that lived up on East Walker, he told me about the early production of hogs. Marketing problem was one of the things. The hog buyers came around, generally twice a year, and he told me then where his ranch was on the East Walker—and there was no railheads at that time, there was no railroad even in Yerington, but there was at Wabuska—and he told me that the hog buyers would come around and they'd be down at Wabuska.

And they *drove* those hogs, generally. They rigged up a wagon with feed and water and troughs and then they started on down the road and the hogs followed the wagons. And they'd feed 'em, you know, at night. And they drove everything. When the hog buyers were in, they drove everything they wanted to sell, the sows and the weaners and fat pigs. They drove everything down to Wabuska, and sorted 'em out and sold 'em to the buyers there. And the price was very low, of course, but this was one way of making money. You see, there was just no money in the community. And you had to have some money. And this was one way of bringing in cash. They also rigged the wagons, put two tiers on the wagons and loaded 'em into a big flatbed wagon with the side boards on 'em and tiered 'em up, and they hauled 'em that way with horses.

This is kind of strange. When we see hogs now, we just don't think how hard it was to market those animals. You had to move to market. Now, cattle you could drive to market rather easily, but when it came to hogs you had another problem. This is one of the ways they moved 'em. I kind of imagined a lot of 'em were slaughtered and worked up into finished meat and products, and were sold probably in Virginia City, wherever there was a local market. But when they got beyond the local consumption, we had to move 'em to California or to other markets. And this is one way they did it. And when they had them over in Wabuska, they could load 'em in railroad cars, you see, and ship 'em out.

Let's see, when I went there we were just beginning to get into the fluid milk stage. Now the Reno area had developed a milk shed that about took care of the demands in the Reno area, so that the dairymen in the Reno area were antagonistic to any other milk coming in from the outside. They could produce all the milk that was needed right here in the valley. But as the population increased and as the pressure of land and feed developed, why, the dairy industry began to develop in the outlying areas—in Fallon and the Carson Valley and in the Yerington area.

Along about this time, there was a change in the dairy industry. We had been on a butterfat basis, production of butterfat. And this was, practically every ranch and farm in all these valleys had from four to ten or fifteen head of cows that they milked and separated and sold as cream, butterfat.

Now the price of butterfat, I remember, producers of butterfat in 1932 and '33 were getting about thirty-five cents a pound, for butterfat. And this was just not possible to make very much money at it. They had the dairy and they were more of a "chore" deal than of a actually a profitable enterprise. They

used family labor on that. The kids and the wife and the papa and mama, when they had time, would get out and milk the cows, do the separating. At that time, there was a creamery made the butter in Fallon. There was one in Yerington and there was one in Gardnerville and Minden. They just collected cream and they manufactured butter. There are no such plants in the dairy industry, there's nobody, I don't think, anywhere in the state, that are milking cows for strictly butterfat. They're milking for Grade A milk. And the difference in price there was considerable. It just became unprofitable to continue that type of industry. So the change was—this started probably in the '30's, but it was underway during the '40's, was practically complete by the '50's. But there was very little butterfat production by the '50's, and by '60's it was gone entirely.

So we had the problem of convincing the dairymen to go into Grade A dairy barn. This was quite a little problem because they had to be an expenditure of oh, maybe thirty-five butterfat. And this was, practically every ranch and farm in all these valleys had from four to ten or fifteen head of cows that they milked and separated and sold as cream, butterfat.

Now the price of butterfat, I remember, producers of butterfat in 1932 and '33 were getting about thirty-five cents a pound, for butterfat. And this was just not possible to make very much money at it. They had the dairy and they were more of a "chore" deal than of a actually a profitable enterprise. They used family labor on that. The kids and the wife and the papa and mama, when they had time, would get out and milk the cows, do the separating. At that time, there was a creamery made the butter in Fallon. There was one in Yerington and there was one in Gardnerville and Minden. They just collected cream and they manufactured butter. There are no such

plants in the dairy industry, there's nobody, I don't think, anywhere in the state, that are milking cows for strictly butterfat. They're milking for Grade A milk. And the difference in price there was considerable. It just became unprofitable to continue that type of industry. So the change was—this started probably in the '30's, but it was underway during the '40's, was practically complete by the '50's. But there was very little butterfat production by the '50's, and by '60's it was gone entirely.

So we had the problem of convincing the dairymen to go into Grade A dairy barn. This was quite a little problem because they had to be an expenditure of oh, maybe thirty-five hundred, four thousand dollars. And they had to finance and they had to arrange their operations on a much different basis. One thing that had to be done since you're going to make that much expenditure, you had to increase the dairy herd from the eight or ten that you milked out in the shed or in the open corral, you had to go up to twenty-five or thirty head of cows. Now, this was considered as a one-man operating situation, in which the farmer and his farm produced practically all the feed that the cows needed. And by hiring a little extra help and putting out a little extra labor in summer, he could do that.

Well, this gradually evolved, and we did develop a very good program, and I'm very proud of it, in Mason and Smith Valleys. We had fifteen to twenty dairies there. We got 'em all converted into barns, Grade A barns. And we won the United States Department of Agriculture gold star rating for that milkshed. This was based on, first of all, on the equipment that they had, and on the production of very low count bacteria. I think, it was under 3,000 bacteria per cubic centimeter. And we helped put on dairy schools there on milking procedures, washing techniques for the dairy, and handling of cattle, and so on and so forth,

around the dairy. Fly control, and all these things. I was quite proud of that.

About the time that we got 'em all converted over, why, this other process started in where the small dairyman couldn't make it on twenty-five or thirty head. So gradually, some of 'em dropped out and the others bought their cows, or bought their quotas and they grew larger until now, unless you milk at least a 100 head, why, you're not in the dairy business. This has taken about probably twenty years to make the change, but it has happened. It's just a case of where you've got so much invested in the enterprise that you have to have more production. And a way to get more production is to get more cows, and change your operation. A lot of the dairymen dropped out, and others picked up the load.

There's a little interesting incident there that we had. We had already been organized, the Western Nevada Dairymen's Association, I think it was. Actually, the by-laws and all were written up when I came here. I don't know who was responsible for those, but I kind of think that probably Prof Scott or dine had something to do with it, and I think that Archie Albright or [Elwood] Boerlin may have had something to do with that. When I came into the area, it was already organized but it was not very active. But we held this whole series of meetings and we were fighting when the—there was a pretty active battle going on between the producer and the distributor. The distributors were kind of taking them a little bit, in that they wouldn't give 'em full credit for the production of Grade A milk. And they'd buy it on Grade B prices and sell it on Grade A prices [laughs] and this is what they accused 'em of—or put it into manufacturing; that is, cottage cheese and other things that they made out of it, you see. So that must have been a pretty lucrative

business. And they actually carried this to quite a degree.

And in 1954, I think, '55, when I finally came here [Washoe County], we had a whole series of meetings in which we discussed—supposedly discussed—prices. I think one of the distributors was there, and turned us over to the Department of Justice for conspiring to monopolize and set prices. So I was very surprised one day when one of the sheriff's deputies walked in and he had a subpoena for me, charging me with conspiring to set prices. He asked me if my name was Louie Gardella, and I said yes, and he just handed me the subpoena. And I said, "What's this? I don't want it."

And he says, "Well, you've got it."

So I called up the dean and told him what was happening and I says, "I think, it's happening with every agent in the western Nevada." And this was true.

The dean was able to get the agents off the hook. The dairymen, none of 'em had guts enough to fight it through; it would cost a lot of money. But finally, I know they worked out some kind of a court order that they should cease and desist [laughs], and so on and so forth. But, actually, they were not guilty of it, but they were accused of it. This is kind of surprising because it was one of the first areas that this happened in the United States and it gave me an awful funny feeling. Here I'm a conspirator [laughing]!

When you speak of this changeover that we had, from Grade B to Grade A, the farmers and ranchers were very reluctant to make the investment. We worked on that very hard and I worked with Wally White who was the director of the State Board of Health or whatever it was in there. And with Doc [Silvo] Mastroianni and with Webb [Hunter]. They were the inspectors. They were very nice to work with. We had a good

working relationship. They couldn't have done it without my help and I couldn't have done it without their help. We worked cooperatively on it.

We finally convinced many of the dairymen to actually to into it, but they just were so—they just didn't want to make the expense. And I don't blame 'em ; some of 'em were older men, and they just wanted to ride it out rather than to make the change. But this was the coming thing. The milk had to be refrigerated, and so on and so forth. (I think I told you the story about Mr. Yoacum, down in Lincoln County, where he was milking cows and I went out there on day to try to get him to build a dairy. I watched the process and they had about twenty-five or thirty cows there, and he would let one out of the corral and then let a calf out at the same time and they'd both make a run for the cow. The one that got there first grabbed the extra teats. The way he cooled his milk was to put it in a ten-gallon can and set it down in a stream that was about fifty degrees. And all hand-bottled and everything. It didn't seem to kill anybody, but I imagine that the bacterial count on that milk was pretty high. This is what he was trying to do.)

They've gone to pasteurizing and all that now. You can't sell milk without pasteurizing it. But this was in that process of change-over and it was a very difficult time for both the producers and the people that tried to work with it.

CROPS AND FERTILIZERS

Now, you mentioned fertilizers and test plots. I did do a lot of that; we did a tremendous amount of that.. Of course, we had available to us the information developed by the local experiment station and also from other experiment stations. The Extension Service still

is production oriented. Generally, the problem came to try to get the farmers and ranchers to utilize the information that was available to them. Mostly, that is use of fertilizers.

I think the first use of fertilizers in Nevada probably was right there in Lyon County. And I think it was Otto Schulz that had a lot to do with it. He told me at one time that they went up into Oregon and they bought new potato seed in Oregon and Washington—Oregon I think it was—and they ran into the practice of using fertilizer there, high concentration fertilizer, high value fertilizer, 16-20. And they came down and started using 16-20, and it's still the basic fertilizer for potatoes, and generally most crops.

Generally, you look at fertilizers, the nitrogen fertilizers for your grasses and your phosphates, I think, were probably somewhat short. But a combination of 'em in the state of Nevada, of nitrogen and phosphate, made almost the ideal fertilizer. We did get into using the complete fertilizer, nitrogen, phosphate, and potash, to some degree, but we never found potash to be—I think that probably raised the quality of the product, but in production, we found the biggest production was with the use of nitrogen and phosphate. And we generally used it only on the row crops and we're limited in row crops, you have potatoes and onions and a little later on, we had the garlic.

At one time, when they were raising a lot of potatoes for the potato chip industry and there's where they came in and dictated that they wanted the potash included, because it made a better chip.

We had a lot of fertilizer work on grains and potatoes; row crops, that is and also on alfalfa. We had good success when we got 'em to using the right varieties of seed and then fertilized heavy; we got good results. As an example, when we raised the production

of wheat and barley, I think we practically doubled it; I know that in some cases, we got as high as five times of barley to the acre by the use of heavy fertilizers. I measured [and] weighed lots of fields of potatoes that were up to twenty tons to the acre, twenty, twenty-one tons to the acre, which is a heavy production. I remember one field at Nuti's in Smith Valley, that he had fifty acres of onions; I think that his average production on that was twenty-six tons of marketable onions to the acre, which is very high production.

We were not quite so successful in raising production of alfalfa. When we had good varieties and proper care, it seemed that we could get five, six tons to the acre—we did get some production, some increase. On three crops when you got six, six and a half tons of alfalfa to the acre, this is about as heavy as you could push it. I think that somewheres in there, there'd be a limit. Other than limiting factors—seasons, heat, daylight, those factors probably limited us to a five- or six-ton average. Under certain circumstances, you could probably get seven or eight tons, but with three crops, it's a little hard to do. We got more results from insect control and from drainage and from cultural methods and cutting time, than we actually did from the fertilizer product on the alfalfa. Since those crops were raised on rotation, you see, they'd be left over residue probably, of phosphate and potash—from use of it on potatoes and onions, there'd be residue over for the alfalfa.

We did quite a bit on pastures, also. And this, we'd generally used nitrogen, a fertilizer that was heavy in nitrogen. I had several. There again, you had to learn how to use it. This happened in Washoe County: I convinced a rancher that he should use quite heavy fertilizer of nitrogen, and he did. He put it on early and had an awfully good start. It just happened that that year was a

late spring, and he was late in moving the cattle off of the pasture—he had fed 'em on the field, you see. The grass had started early where it was fertilized; it had started early and he didn't move 'em till pretty late. Well, what had happened, the cattle had gone over and eaten the lush green growth as early as it came up. So the result was that we actually had a decrease in the production where we put the fertilizer [laughs], as compared to where we didn't put the fertilizer. Simply because we had stimulated that growth of that grass early, and the cattle had taken it off. I think that had probably an adverse effect on the root system, the plant, and we actually got a reduction. So it took me awhile to figure that out. I think I got it figured, but maybe I was wrong.

We, of course, worked on pasture location, and seeding of better pasture grasses, mixtures. We did that to a lot of land.

You asked me how much resistance we ran into in convincing ranchers and farmers to use fertilizer. There was always those that just didn't use it (they didn't raise row crops). Those were a little bit harder to convince because a lot depended on whether livestock and alfalfa did well, and of course, the livestock droppings on the fields did pretty well, helped with fertilizer. But if they were produce—potatoes or onion—growers, they didn't have too much resistance. About the only resistance that we had was that actually, it was costly; it cost 'em a little bit more, and they sometimes held back on the amount. We had a hard time convincing 'em ; generally, they used about 300 pounds of 16-20 and we found that you could push that up to six, 700 pounds and get a little more production. We had figures that showed pretty well at what level you got your greatest production, greatest return from your investment.

But we didn't run into too many troubles; all we had to do was run into somebody that

was at all receptive and we could get a plot on his land under the conditions that he was growing. And we were successful. We converted him immediately. It was something very similar to the hybrid corn and better seed. All they have to be is demonstrated once, and you just don't have any more resistance, once you demonstrate it. And you can work that out in dollars and cents. It didn't take very much to, just as you're talking to him, if you know the cost of your fertilizer and the price of your sale and products that you sell and the amounts that you produced. You've got the figures there, it doesn't take 'em very long. They got so that they'd put out the dollars just because it meant returns to 'em .

We used a lot of fertilizer in Lyon County, chiefly because it was the onions and potatoes and grain. I don't think they used as much in other areas in western Nevada as they did in Lyon County in those days, when I was on there.

We spoke about demonstration plots. When you speak of demonstration plots, the Experiment Stations have worked out definite sizes and duplications and these things. However, when I speak of demonstration plots as a county agent, we speak a little bit in a little different language, and it was looked down upon by the Experiment Station because they said we weren't accurate enough. But what we did try to do, we tried to adapt the results that they had gotten in the Experiment Stations to the actual conditions that we found on the farm, or with the equipment the man had. And this took a little jockeying. It wasn't as accurate as probably should be, but I never considered a result of much less than ten percent; if there wasn't at least a ten percent difference, you weren't going to get the farmer to use it anyhow. And if it was ten percent or more, why, you could see it, you could weigh it, you could actually show him that this was

an increase, and it actually paid him to do these things.

So, for example, when we put out a plot on potatoes, we would go out and we'd let him use his regular fertilizer at the regular rate in the ordinary field that we was planting, then we'd lay off an area and we'd put in the amount of fertilizer and the type of fertilizer that we wanted. And we'd put in five or six or ten rows—whatever it was—and then we'd duplicate that with his regular fertilizer.. And then we'd come in with a different combination for another eight or ten rows.

Now, when we harvested, we generally tried to harvest one row or two rows, the full length. And all I did was, I'd weigh the sacks generally, with the scale. And I'd measure the row; and we knew the width, and so we had the area. And then I would grade. Sometimes I had to grade the potatoes so that I could show a difference in the quality, and it worked out. Now, the only place that you'd really have problems was that if you had uniform- soil across the field. But if you picked a field that was pretty uniform, it was just very, very easy to pick out.

The other thing that the farmers noticed, the ranchers noticed it more than anything, they'd count the sacks or the production that came off on one row. And that gave 'em a pretty good indication. But we actually recorded the poundage and the quality of it when we could. And from that, we could work up the costs and whether it was a paying deal or not.

Now, and the same thing happened with the alfalfa pretty much. Now, I had to watch 'em pretty closely, because the rascals sometimes wouldn't let me know when they began harvesting, and if I wasn't there, some of 'em would just keep on harvesting and then when I got there, I didn't have any results. But

I watched 'em pretty close. I had to be there. For example, using on alfalfa, I used the width of a check, irrigation check. And I measured 'em out to see if they were about the same width. They were generally uniform.. And I checked the stands and so on and so forth, so I had uniform, pretty much uniform. Then I would have 'em , when they went into cutting I would have them mow one or two checks or the plot that I had separately and then rake it and bale it separately, you see, so then you could count the bales and you'd weigh eight or ten bales and you'd have the amount of production that you have on each check. And you have the length and the width and you could figure out what the acreage was and you could get down pretty close.

We used different rates, of course. It wasn't very hard. We did pretty much the same with wheat or barley. You marked the area that you had, and then you'd clean out—especially when you got the combines, you see. You'd just have 'em go right down the line, they'd cut right on the line, you see. And they'd cut all that out and then you would weigh it—sack it and weigh it—and then you'd have that. And this saved them time and it saved the agent time and you got really pretty close figures on it; they were pretty accurate—I felt that they were always pretty accurate. At least the ones that adopted the programs and did the things felt that they were accurate.

So this was the difference: [with] the Experiment Station, they duplicated three or four, five times or ten times a plot the size, so that they could multiply it in multiples of an acre. This is fine when they have special equipment and plenty of time and labor to do this. But we didn't have control of the irrigation or of the agricultural methods; we have to depend on the rancher and farmer doing his regular practice. First of all, you wanted him to do that; he was doing it. If you

detected something that he was doing wrong, you went and tried to correct him, but he's running that place, and all you were trying to do was trying to work with him so that you wouldn't disturb him or bother him. You were in there as a guest, actually. You paid no rent; sometimes he paid for the fertilizer and the materials, sometimes we furnished 'em ; most of the time we kind of had a cooperative deal. He's furnishing, actually, the biggest percentage of the labor and the land, the water and most of the fertilizer, or whatever you were using. So, you had to adapt the method of doing it to the particular individual and to the community in which you work.

We were talking about the difference in putting out test plots, between what methods the Experiment [Station] used, and the methods we used—agents used—on the field. First we must understand that the agent just didn't have the time. There was a lot of other things that he had to do, and we had to, and we didn't have any labor, or we didn't have control during the summer, the growing season. So we had to depend on the farmer and rancher for this extra labor. So we tried to furnish, if it was fertilizer or seed or whatever it was, we tried to furnish that to 'em , and the rancher or farmer would furnish the other costs and labor that was involved.

I might illustrate this by one year that Otto Schulz had gotten, I don't know, ten or fifteen different varieties of potatoes from some experiment station back in the East and we went to a rancher or farmer in Smith Valley, a potato grower. We went there on the day he was planting and we took about the middle of the field and we just got our potatoes up in little bags that they were on the potato planter and we had him go down the row just the same as he would ordinarily, planting the potatoes, and we dumped in one variety and when the supply was exhausted,

we went about five or six feet without planting any, and then put in the other variety. And then again, spacing it five or six feet until we had 'em all planted. Of course, during the summer, the farmer irrigated 'em ; they were part of his field and he irrigated 'em just the same as he would any of the rest of 'em . So then when we harvested 'em , why, the potato digger went down through the furrow and dug out the potatoes and they were spaced we had planted 'em . And it didn't take very much extra labor to just gather 'em separately and weigh 'em and calculate the amount of space that they were grown on. We used the same fertilizer, the farmer used his own fertilizer. We fertilized the same rate and they irrigated the same way as the rest of the field, so that we were able to get a lot of information with not very much labor. And I think that that was fairly accurate.

Now, we used much the same when it came to grains. We just used their drills, the amount of fertilizer they were using, and then when they came in with their combines, we cleaned the combine out and have 'em harvest that particular piece and weighed it and calculated the ground that it came off of and a similar piece of ground that was harvested from with the usual variety that was grown. And we had a pretty good comparison.

[And the Experiment Station, on the other hand]. Well, they generally [had] much closer control. You see, they have control throughout the growing and harvesting season. They put 'em out in given plots with replicas, proportionate part of an acre and then three or five or ten replicas and then weighed very carefully. This gives probably a much more accurate, pin-point accurate. But we weren't interested in that close figures; we figured that if there was a ten percent increase or decrease, if we could detect that. That was good enough for the purpose that we were

using and the farmer and the cooperator actually understood that. It doesn't take very much of a mathematician to figure that if you have ten percent increase why, it probably pays to use that particular variety of crop or that particular composition of fertilizer, that particular—whatever it might be.

We're talking about the ASC program and the acreage allotment that was allotted to each grower. It didn't affect us actually, in this particular area, as greatly as you would think it would. We had allotments on grains, of course, barley and wheat and corn. But we didn't raise any corn, so it was barley and wheat. And I think for awhile, we had it on potatoes too—I'm not sure. So we had the committee, of course, and we had the field man for the ASC [who] would have the back history. This was recorded. And depending on the percentage or the total acreage in the United States—it was made up for the United States and then broken down for each state and then the state committee would break it down to the counties, and when it came to the counties, the county committee broke it down to the farmers and ranchers that were affected.

We did have a little problem. Some of 'em objected and balked a little bit, but not too much. The worst part of this was a little hard to manage sometimes, because a rancher might have an acreage allotment of, we'll say ten acres of wheat, and all of a sudden, why, one year he probably plowed up a field that was fifteen acres in size. So he'd want to plant that all in wheat. It was a little hard, since the irrigation system is all set up according to fields. So he would object in that case and we had to make some adjustments and that. But it wasn't too hard. They balked a little bit sometimes; they felt that it wasn't getting enough or they weren't using it. But we had to watch it pretty much because we didn't grow grains, it's not actually a cash crop like it is

in the midwest. This was a rotation crop area our cash crop was actually our hay, alfalfa. So it was a little bit—he had to do a certain amount of renovating and renewing his alfalfa stands. And he did that by the fields. You generally have to rotate and replant alfalfa six or eight or ten years at the very most. If it came on a certain year that he had a small wheat allotment or grain allotment, one year when he wanted to plow a big field, this caused a little troubles. The next year, he might keep that big field and go back into alfalfa, you see, and he'd probably have a very small acreage of grain that he only wanted to plant that year. But we were able to generally adapt to the area. It didn't cause too much troubles.

PEST CONTROL

As a continuation of the weevil story, when I moved into Lyon County in 1943, the weevil was very bad. We only had one method of control and that was to wait until the weevil was extremely heavy in the fields, then treat it with calcium arsenate or lead arsenate. This naturally killed the—it was actually a poison and by waiting a couple of weeks till the wind blew the dust off the alfalfa and then harvesting it, we detected no damage to the live stock. It did play havoc with the bees and other insects that used the pollen and the nectar in the fields. But this was not very effective; it helped. We didn't get any really effective control until we got the hydrocarbons about in 1947, '48—I forget exactly when it was. We used some DDT and then we began to use dieldron and heptachlor.

When I went there, we used blowers, real blowers that had a width of about fourteen feet. They were quite effective, but you couldn't cover much area, so we began using airplanes and dusters; these were very effective. We got quite in a little argument with the bee

men, 'cause a lot of bees were killed. Shortly thereafter, we began using the hydrocarbons; chlordane, heptachlor, dieldron were the two principal ones and these were very effective. It added at least a ton or a ton and a half of hay production per acre to the total acreage. This was quite an economic boost to the county.

We used to allow two weeks, ten days or two weeks. The detection of the chemical was not possible with the equipment they had in those days. But shortly—after four or five years—they down got to where they could detect it in one part per million or less and eventually, it led to the restrictions of the uses of the hydrocarbons. And they've used other materials which were probably not as effective, but we got to using spray material in early spring, which you didn't have to use in summer at all. This saved us from damaging bees and was very effective.

As I say, control of insects by the old method generally depended on a poison such as arsenic, mostly arsenic. We used arsenic to poison bran, control of grasshoppers, and generally, arsenic in control for fruit insects.

About the time that we started to work on the control of insects on the crops, the same thing happened on livestock. We used DDT and rotenone for control of flies and horn flies and grubs in cattle. In Lyon County we had probably one of the worst grub problems in the state. We had both the northern and the common variety of grubs, cattle grubs. They were so bad that I actually saw sores on the backs of young stock that would break out and the magpies would pick on 'em. I've counted well over a hundred grubs in each back of those young animals. So we started to try to treat for it. The state Department of Agriculture had a little sprayer that we borrowed a time or two, but that wasn't available and nobody would buy a sprayer. We argued between dips and sprayers and tanks.

Finally, I bought a bean sprayer, 300-gallon bean sprayer, unbeknownst to my bosses. By that time, Pat Sanford, my old friend, had gone into Sanford Equipment Company in Reno. I came in and I said, "I need a sprayer.

He says, "We'll get you one." It cost, I think, about a thousand dollars or eleven hundred dollars.

I said, "I haven't got any money."

He says, "We'll get you one anyway." So he shipped it out and we put it together and we went to spraying cattle, and crops, and everything else.

I worked it out of the office. I did some of the work myself, but I taught two or three people how to use it. Then I'd take the orders for the spraying and then I'd send them out and they'd spray and I'd collect the money. Eventually, I got the sprayer pretty near paid for. Then I'd built up such a business that it was embarrassing to have it in the office!

So by that time, my friend Bruce Barnum had come back from the army and I proposed that we pay off the Extension Service and go into business on the side, which we did. So I paid off the sprayer—the bosses didn't know anything about this, I think probably it was slightly illegal but I paid off the sprayer. I didn't cheat anybody, I want that understood; I didn't cheat anybody. But we went into business and we had the best sprayed cattle in the state. We took care of the grubs and the flies and everything else, 'til finally DDT was outlawed and we had to use other materials, but we still had the best sprayed cattle in the state, according to all the tests. We sprayed not only in Lyon County but we went to Douglas County and Mineral County, and in Washoe County. We sprayed all around. We had the only big sprayer that was around and we kept it busy. We sprayed thousands of head of cattle.

Anyhow, after about a year we built up such a business and it was really—I couldn't

handle it. I had too many other things in the office. About that time, Bruce Barnum came back from the army and I proposed that we go into business together, with him furnishing the truck and I furnishing the sprayer. So I paid the office personally; I borrowed a thousand dollars and paid 'em about seven hundred dollars for the sprayer. And then, we organized the Farm Service Company. We went into spraying cattle and spraying for weevil, spraying for grasshoppers. Then we went into treating of soil for the eelworm, nematodes. We had one man hired continuously, and sometimes during the rush period—we eventually got two sprayers and a couple or three trucks and a tractor and we had quite a little equipment. In 1943, I moved from there and felt that I should get out. So we inventoried our stock—I think we had about twenty thousand dollars worth of equipment and property and what-have-you—I offered it for fifteen hundred dollars just to get out.

In the seven or eight years that I was in business, I never personally made any money at it. I think we took out about two hundred and fifty dollars during Christmas—this was for Christmas presents. That was about all we ever got out of it. I wasn't handling the materials, I didn't get anything out of it, except we built up quite a stock of the equipment. The money that I made through the use of the sprayer that came into the office, the local office there [in Yerington], it helped us with conducting the 4-H Club program. I never believed in having an outfit that was broke, so we used that money for many of our 4-H Club activities. It made it a little easier than to raise the money—than to go out and raise it through the kids.

When I moved to Lyon County, we introduced the Lemhigh when there, which was developed up in Idaho. And it was an offshoot, I think, of the Bart—anyhow, it

was an offshoot of some wheat that had been growing there. But Lemhigh was so much better that we—it took us a few years to replace other wheats, but we finally got Lemhigh as a leading variety. We introduced several varieties of barley; some of 'em were quite successful, others were not as successful. We tried to introduce winter barley and we never were too successful with that. We introduced potatoes (I forget the exact name), that we used for chipping potatoes. And they were a very good variety, but they had no keeping qualities; they were only used for chipping. And they were used for eight or ten years, and then, of course, they went out of production in Lyon County.

One of the most satisfying projects that I put together, after I moved into Lyon County, was the treatment of soil for the control of nematodes—eelworm, in other words. When the early settlers came into western Nevada, they produced quite large quantities of potatoes, both for the local market and the coast market. The product that they raised was a very good potato, they generally had used what they called a White Rose (actually, it was a White Burbank), I guess it was a white potato and it was a good potato. But seed eventually ran out and they began using the russet as the main potato in the area. Early, there was no nematode of eelworm, but as they grew more potatoes, and they did more irrigating—the nematode was either native or was imported in here and it spread to all the lands in western Nevada.

Now, the experiment station and many other people tried many things to get rid of eelworm. They blamed the seed and the poor growing and blamed over-irrigating and under-irrigating, but it was just plain and simple. Fact was, the nematode was able to survive in the ground on other roots besides the potato, and when the conditions

were favorable, they were in extremely large numbers. Now, the nematode pierces the potato skin and causes a little bump, as it were. Actually, there's a decay of the tissue immediately under where the female developed and it's passed from one potato to the next, you see, and it rots in the ground. The female lays eggs, and there's a repetition of the reproduction of the nematode. So it came to a point where, in the late '20's and through the '30's and up into the '40's, that it was very difficult to grow clean potatoes. Just didn't want 'em. There was some restriction, even, on shipping 'em into California. And the potato industry in the western Nevada was in pretty tough straits.

So I came into Lyon County in 1943. And the previous agent that was there had contacted one of the companies that had some treatment, but no checking on the effectiveness of the product, or anything, had been done. So in 1944, I read in one of the Farm Journals where the Shell Oil Company had a product called D-DD, I guess it was, that was effective in controlling of nematodes. I wrote them a letter and they wrote back to me that, yes, they had the product and they wanted to try it in the area, that it was effective in controlling nematodes.

So we had to make a sale. First of all, we had to find someone that wanted to try it. So I went out and rustled some ranchers that were willing to try it. They sent up a man by the name of Barton who was a nematologist and a man that applied it. I worked with the local Shell dealer there. They brought in an outfit to treat the land and we rented equipment and we treated probably a hundred, or a hundred and fifty acres, for the first year.

I want to go back a little bit on things that had been done for eelworm. When I was on the ranch down below Wadsworth, everybody talked about eelworm and somebody said

something about sulfur, so I bought a bag of sulfur and we scattered it down. That was not effective. Others had tried lime and agricultural lime; that was not effective. And everything that had been—someone tried drying the soil out and different irrigations, and some were letting land go idle for one year, and nothing was particularly effective. When the Shell Oil Company came in with D-DD, this was a chance to really get at it properly. So I sold the idea to some of the ranchers there, that here was a material we thought was probably going to be effective. We didn't know, couldn't guarantee it, but the cost was about forty to forty-five dollars an acre for treatment, which was quite a bit of money.

So they came in the spring, I think of '44 or '45; I think it was '44. So they brought in the material and we got rigged up. Treatment required that land be plowed and thoroughly disked and refined and not too much trash. Then when the soil reaches about forty-five degrees, which is in April sometime, you treat the soil with, I think it was about three hundred pounds of this material per acre, and treat it by shafts that go into the soil, down to about a depth about eight or ten inches. The material is pumped through a tube down the back of the shafts, and you treat about ten or twelve feet width and the material is placed about one foot apart and then it's harrowed over, and the heat causes this to vaporize. And you wait at least two or three weeks, and sometimes if the climate is cool, you have to wait as much as four weeks for it to completely vaporize and treat the soil. This kills the nematode.

So this was done to about a hundred, a hundred and fifty acres. There again, we treated the field, but we always left a test plot that we did not treat. So this gave us a check. So that fall I went out and they were digging potatoes, and the farmers were highly pleased. We couldn't

quite get rid of all the nematodes but I checked just hundreds and hundreds of samples.

In both that year and in the follow years, I'd go out and when they were picking, I would count a row of sacks and I would take one half a sack and I'd peel the potatoes. First of all, I'd give 'em just a visual inspection to see if there were any bumps at all. If there were, I took the knife and peeled the potatoes. I counted out, I'd count 'em both by actually tuber counts and actual weights. I did it both ways and I found that we could reduce the incidence of eelworm in potatoes down to about five percent of the tubers of the weight, but we reduced it a great deal more by actually the number of infected or affected tubers. We probably reduced that down to where there were—I counted all tubers that had at least five, when I peeled 'em, I found at least five marks on 'em that were caused from the eelworm. I counted those infected, so actually they would have gotten by inspection unless you peeled 'em, you see. But we probably reduced it as much as ninety-nine percent of the eelworm, knocked 'em out.

And this didn't take very long to take a hold in the valley. And there was another company, a rival company that also treated—they used a different material (I can't recall its name exactly), and that was probably as effective as the material used by D-DD.

But in my work with it, I found that wherever you used D-DD, that they crop production was actually heavier, from the treatment of the soil. And I never did figure out that, I don't know what caused it but actually in some places, between the treated area and the untreated area, we not only had the good potatoes in the treated area, but we also had a total production increase, using the same fertilizer and the same seed and the everything the same. In some places, as high as twenty percent. So this was the selling point, and this didn't take very long.

Later, when the Shell Oil Company itself decided they wanted to pull out of it—they helped us for about three years—they said, "Now, from now on, we don't want to treat any more soil, but we will sell you the material, but get somebody to handle it." So this is when Bruce Barnum and I went into organizing the Farm Service Company in Yerington. And we went into treating soil and insect control on crops and livestock insect control. And I didn't do it so much for the money that was in it, because it never did make me any money, but I did it because nobody else would handle it and it had to be done. It was one of those things that you just had to—somebody had to do it.

Mr. Barnum handled the materials, and I think that he did all right in the sale of materials, and in handling the materials. But I, as a part owner of the service company didn't do so well. I finally sold out for fifteen hundred dollars and I was in about a thousand dollars, so I came out about even. But I think we performed a real service. You could call that a conflict of interest if you wanted to, but it was the only way that it could be done.

Well, we'll wind this up by saying that the treatment for eelworm or nematodes actually gave the potato growing industry a big shot in the arm and it probably saved it, or extended its life in western Nevada for probably eight or ten years. It has since shrunk considerably, because of land uses that were changed and because of the price structure and the growing of large acres in Idaho and Oregon and other areas in western United States, which had more favorable soil and more favorable conditions than western Nevada. But it did help for a period of time.

TRANSITIONS IN MODERN AGRICULTURE

We were talking about the process of changing over from milking in corrals and

sheds into modern barns, the cost that's involved, and the different equipment that has to be purchased and put into operation. This same thing has happened in all of our productions, all of our crops and agricultural production. Something new comes up and if you're one of the first ones to buy it, you have a little advantage there. But if you wait three or four years, the machinery or equipment becomes outmoded. You never wear the equipment out. You always have to change, because of the new products that have come out. And this is very costly.

I've watched the haying process, for example. I watched from the horse-mower stage to pitching it up in derrick, and then going to the simple baler, and then going to a five-man baler and then to a two-man baler and then to an automatic baler; watched 'em pick it up on the fields by hand and hauling it into stacks by hand, and then in the present equipment that is used to pick up those bales and stack 'em —harrow beds, as they call 'em — why, it's a whole new process.

I have a little story that I went out here to the Damonte ranch—oh, this was about 1960 or so—and I went out in the fields there and here was three boys, none of 'em older than seventeen or eighteen years old. And one of 'em was running a windrower and one was running a baler and one was running a harrow bed. And they were doing as much work as probably twenty-five or thirty men, at one time, were doing—and fifteen or twenty teams of horses. And here was three pieces of equipment, three boys, doing the same amount of work. This was expensive. They had more invested in one piece of equipment than you had in the equipment that you had for the other process. But here they were three boys doing the work of a large number of men.

You made a mention of the gentleman farmers or outside money coming in and

purchasing farms and ranches and the effect that it had on the community, the land values in the community as well. And this is, I think, evident throughout the state. And Lyon County, Mason and Smith Valleys, were no different than other communities. The early settlers came in there in the early '60's or middle '60's. And gradually, there was a change there, but a lot of descendants were still there. When, oh, I guess it was in about the early '40's, there started to be quite a little migration into there of people that thought they wanted to retire, made money somewheres else, or wanted to retire, or that had money to invest, probably for tax shelters or other purposes. And they came in there. And the natural result, of course, is the higher prices. They paid more than the land value was actually worth.

This did two or three things that I feel were probably detrimental. First of all, that is detrimental to the community, it's probably beneficial to both the parties that were concerned because the farmer got more than he expected and he may have been ready to retire anyhow. But it put the price—much of the price—of land beyond the reach of the actual farmer or the young man that started out. And the land owners that came in, that I saw, actually they utilized, not only the land but they utilized the available skilled help that was there—skilled men, the managers, irrigators, and people that were actually skilled in the arts of farming and ranching. But they did not develop any new boys or new young youth. And I think that we are feeling it now and we will feel it later on, as we go along, although we have universities developing young men and they're getting technological background and all this. A lot of those skills are learned just on the ranch and in the particular community in which the land is located. So we are losing, and have lost

a very valuable asset there for ranching and farming, mainly the well-trained young men.

That wasn't the only thing that kept those young men there. They were relieved of a responsibility and they felt they wanted to go to town and get jobs elsewhere. So a lot of those moved off, and I remember seeing those young men move off, and it just bothered me quite a bit. Because here was skill such as we couldn't develop, moving off the land, moving off to the large communities. I think this happened all over the state. I would put that a negative value, I'd give it a negative value.

Generally when new men came into the community, many of 'em brought in new breeds of cattle or new breeds of hogs, or new breeds of sheep. And they were receptive to experimenting—I really should say change—the general farm practice that were being carried on in that community. They brought in some new ideas. In some cases it worked, and in some cases it didn't, it depended on what they were trying to do and what happened.

Of course, there were a lot of changes happening in the livestock industry. There was economics. For example, we saw the sheep gradually going out, because of no one factor, but there was a factor of price, wool prices, and availability of men. Outside ranges came under BLM control. Prices changed on the farm produce that was fed to the livestock. So there was economic pressure. And of course, they did quite a little change. The change is continuing now. We lost a lot of the industries that we had. I think I mentioned before, we lost the poultry industry, practically gone, and the turkey industry practically gone, we lost practically all of the pig industry, pig raising, and we're way down in sheep numbers. This went over into cattle; it changed somewhat over into cattle. And this was, again, not only due to the unskilled men that we didn't

have, but also to the economics. Potatoes and onions, they were here and they're mostly gone now. Of course, part of that was replaced by alfalfa seed production in some areas of the state. We probably increased pasture; with the new varieties of alfalfa, we did raise, I think the production per acre of alfalfa, because it was a better crop. And, of course, we had all the insect control and fertilizer programs that came in. Some of those now, they're having a hard time carrying 'em on because there's restrictions on what they can use for insect control. These things affect an agriculture, and sometimes it affected in a relatively short time.

You asked about what changes the outside influence had on local community life or social life, and how interested they were in actually the farming or ranching aspect. Well, some of 'em had quite a little interest and they did join in the community, some of 'em didn't. Most of 'em, a good many of 'em, it was a part of their life several years, two or three years, and then they moved on. Some of 'em actually took losses and those ranches reverted back to some of the local people that had a little money or it changed over hands to somebody else that was in the same position. Yes, they did change to a degree. It's hard to put your finger on it or actually define what actually happened there. But they did have some influence for—I'm not even sure that it was—. Well, one thing that they did do, many of 'em that they were interested for a period of time anyway. They did do a lot of leveling, and a lot of actual improvements, physical improvements on the land. Better ditches, better leveling, more modern equipment: some of them, not all of 'em, but some of 'em did.

We had the other variety that came in just to make some money. And they took many of 'em, took an outfit that was balanced with range and livestock and farming operations

to sustain that livestock and a lot of 'em tore those down, took them apart, you see, and sold 'em off, kind of merchandised 'em . In other words, they took a big package and then sold off the range, or they sold off the ranch lands, or they sold off something, the cattle. Many of 'em , some of 'em made money by just selling the cattle. At particular period of time, the cattle prices were rising and they'd buy the outfit "as is," and then they'd strip it of most of the livestock and put a little paint on the fences and fix up the houses a little bit and peddle the operation for more than they paid for it. Now, this happened. Those were pretty sharp operators. Some of 'em lost money in the process. Then they had others that came in and they wanted a bigger operation. So they gathered together several smaller outfits, then put 'em into one big one probably raising some of the efficiency, I don't know. It's hard to say. Most of 'em didn't last a great deal of time. Some of 'em were actually companies or corporate farming that I didn't think fitted in too well.

And as far as the relation with the Extension Service, we did get to meet some of 'em came there and lived; we got to meet 'em and actually discuss farming operations or ranching operations or, you know, this kind of thing. But some of 'em we met once or twice, and actually never got close to them. Although we did work with the managers. Most of the time we had local people that were managing. When they ran into a problem, they did come to us.

Sometimes, you'd work with a local manager and it was a little bit discouraging because you'd get interested in a place and you'd work with the manager and sometimes with the owner for a year or two, and you could see some progress being made along either the livestock breeding or ranch operations, or whatever there might be. And

all of a sudden, their offices back somewhere in New York or Los Angeles, or wherever it might be, decided that now was the time to sell all the livestock, or now was the time to do certain things. They were looking at it, they'd probably had taken all their tax losses they could, you see, and they wanted to change the operation there, because they—they made money at it, on books at least, but it was a little bit discouraging because you didn't know exactly how steady and continuous that operation would be.

I won't describe the particular one, but I'll describe a particular area. There was an area on the East Walker which at one time was, there was about five or six smaller ranches. They were livestock operations. And then a big outfit came in and put those together, all together, three or four of 'em together. Made quite a large operation. Then the owner decided that this was not what he wanted and so he sold the livestock and he got rid of the outfit. And then the next one that came in pulled the outfit apart, you see. Sold the range and then sold the ranch operation separate, you see. This was a very disturbing factor in the community. I don't think it added any to the agricultural production of the area. And it didn't do anything for the solidarity of the community or for the benefit of the people that worked there. You see, this goes back to training and to establishing a good work force. Those people were forced to leave and look for jobs somewhere else. And they probably never came back to agriculture.

We're talking a little bit about the difference in the communities as they develop, for example between Carson Valley and Mason and Smith Valleys. Carson Valley, of course, the farmers and ranchers that were there generally held on to their land and it passed from one generation to the next, sometimes four or five generations. This was not as evident

and not as conspicuous in Mason and Smith Valleys. There were more outright sales of people coming in, or neighbors moving in, or other people taking over the land. And it didn't move within the family as much as some communities, more stable communities, probably like Carson Valley. That may have been due to economics or to desire to get out of there. I couldn't put my finger on the real cause.

The situation is evident in all valleys in western Nevada. Here in Washoe county, we're seeing the land values based on subdivision possibilities and not on ranching or farming possibilities. We're seeing all the old families generally have sold out and land developers and speculators have come in and purchased that. The same thing, I think, is happening somewhat in Carson Valley and it's certainly still happening in Mason and Smith Valleys. There are a few families that have held on in all valleys, and the descendants are still there. But you have had, I think, more movement in those two valleys than you have here. I don't know how to compare with Fallon. I think there's been a big movement in Fallon; there always has been a movement in Fallon. I don't think that was too steady, either.

In summary, I would say that my years I spent in Lyon County were very pleasant and I think, from my point of view, anyhow, were very successful. I left a lot of friends there which are still friendly. I see them occasionally, and we talk things over, so I think that, personally, was a good satisfaction.

Now, as to the things that were accomplished, not only by myself but by the cooperators there. I think there is a great big movement in Mason and Smith valleys and Lyon County as a whole. For example, the things that were just starting to—they had just gone from the horse to the mechanical age, they just passed it—some horses being used, but not very many. We'd come into

the big equipment which permitted land leveling on a large scale, which changed the irrigation concept and required enlargement of ditches. We cleared a lot of land from—well, there had been a period in which the land, a lot of the land, particularly in the Wabuska area and in the lower areas, had accumulated alkali, salts. And by putting in the drainage, these were made possible and development has happened on a big scale on a lot of that land. What was useful had become useless and is now back into production, on a much better scale than it had been before. And better use of water, I think, has been made. And, of course, the utilization of labor.

As I mentioned, I think, somewhere back, they used to require a lot of hand labor for haying, for example. Just to mention one item, the baler: when I went there, they were quite proud of the John Deere baler that required only five men. Then they got down to the Case baler; everybody wanted a Case baler because it was two men involved and the tractor driver. And then they got down to what they called the one-man baler; that was the driver, so it was an automatic baler, you see. This happened over in less than ten years, you see, less than ten years. You went from a crew of five or six men on a baler down to one man, automatic balers. This happened in the mowing of the hay, where there was still some horses being used, then they went to, of course, all tractor mowing. And then they got the windrowers, which eliminated again the—one man was able to do so much more labor, and so much more work than with the older equipment. So, it was a complete change there in the use of men. And a lot of it happened right there in my time. Marketing didn't change so very much, but from the loose hay stacking down to—it was all bales, all baling. They even introduced the chopping,

and they even got down to where they were cubing when I left there, some of 'em .

These were changes that happened throughout the United States. One man was able to do so much more, actually accomplish so much more, but they just replaced machines for labor.

There's another change that happened on the ranches, in particular, where they had cook shacks and they fed a big crew. During the period that I was there, pretty near all these big ranches that had been feeding their men and had cook houses and bunk houses, they pretty near all disappeared. They'd hire somebody that lived in town and go out or pick 'em up in the morning and go back in the evening and they generally carried their own lunch. So there was a big change for the housewife, too, in many cases. And it eliminated all the ranch cooks, practically all the ranch cooks. So that was a change in the operation.

You mentioned a while ago about the feeding operations [for livestock] and how they changed. Well, I can well remember and even when I came into Yerington, there were still a lot of small feeders that had a few head of livestock; they didn't generally buy any, they cut out their steers, the ones they wanted to fatten, and they put 'em in a pen and they fed 'em —generally hay with very little grain. Well, those have practically disappeared, and we have the commercial feeder coming in. We had a little while there that the livestock producer was feeding his own stock, and he built some mills and rather modern feedlots, but they have also disappeared, practically, and you're gone into strictly what would be the commercial feeder. He either feeds on contract or he buys practically all of his feed, and practically all of the cattle. In other words, they specialized. And this has happened over a very short period of time.

4-H CLUB WORK

I went to work in 1943 in Lyon County. I think I reported there on the fifth or sixth of July. I was a month late in getting there. Of course, club work was already under way, such as it was. There hadn't been any agent there for several months. The leaders—very good qualities of leaders, but there had been no organizational work. We had only a part-time home agent, so when I went there, it was rather disorganized and not very well directed. We had so much other work to do that we barely got it rolling and got some finished. We got some youngsters finished, but it was not very good work.

And we were organized under the so-called community clubs, in which we had boys and girls and one of 'em was doing livestock work and one of 'em was doing sewing, and you know, this kind of thing. This was designed primarily for rural areas where there was no transportation, you see, where the transportation was limited. Each youngster was given quite a bit of time by the agent. He had some leader training, but you generally picked pretty well-trained leaders. It was all right for its time, but was rather hard type of work to carry on.

Over the years, I helped kind of develop that, and change that little bit. We kind of started separating the clubs into the work activities; for example, the livestock clubs. We even got down where we had sheep clubs or lamb clubs and beef clubs. And of course, we have the sewing clubs, and the garden clubs. So we kind of separated those out.

Now, to keep the group together, we developed a little different concept of the community club. We had those meetings, probably once a month. And these were just for a get-together, for playing, for developing programs county-wide. And we first elected

officers in Mason Valley. And then in Smith Valley, we elected the different officers for those particular clubs. You see, they are organizing their project clubs down lower. And I began to get a little different concept there. I don't know if this was quite right or not, but we finally, when I came into Washoe County, I found the same kind of a situation. By that time, I'd made up my mind that it was going to organize a little bit different and we did.

And I wrote up what I wanted in constitution and bylaws and then I even went to an attorney to get it in legal form and we tried to use that all over the state. And they did adopt it to some degree. But I couldn't quite get it over to all the agents on the concept that I had on it. We used it to a very high degree. In Washoe County, I think that my assistant agent, Mr. Pursel, has picked it up and really developed it even better than I have. When I came to Yerington, July first of 1943, and this being rather late to really do very much organized club work for that year—some had been started and I carried it through, of course, for the year. We had only a part-time home agent and I had no assistant agent and there were many odds and ends I had to catch up with and get myself acquainted with the community. So I spent most of that year getting acquainted and trying to get organized for the following year.

In 1944, I think it was, we got somethin' going, but it was still—. The numbers were down, and it was during the war, and all the youngsters were working, and it was a little hard, and the mothers and everybody was pretty busy. But we did have some representation. By that time, we had no county shows, but the custom was to bring over some calves, those that were coming to Reno. There was no inspection made on a county level; they all came to the Nevada Livestock Show.

We did in 1944, have Eddie Snyder, who's now in the livestock feeding business in Yerington, a large feeder there. And he had a champion Hereford steer he showed at the livestock show in '44. That was my first experience with having a champion for one of my youngsters. We had several other exhibits but we were not in it very deep. We kept building numbers and organization and we finally got up to, I think at times there, we had over a hundred head of stock. Our best year, when Madge Schendel got there and we really got going, we had, I think, two hundred and sixty youngsters finish 4-H Club work, which was very good for those days; the population was down and there wasn't very many workers.

Along about that time, the livestock shows were going in at the Cow Palace in San Francisco. It had just been built. And there had been some youngsters exhibiting down there, but not too many of 'em. We got enthused about it and several years, from about 1945 or thereabouts till about 1950 or '51 or '52 in there, we generally showed livestock in San Francisco. We did very well. We had one youngster that showed a Hereford heifer calf into the second place in her division in one of the divisions.

We did exceptionally well in Hampshire lambs. We went down there and we were always competing, the youngsters were always competing, for the top group in the lamb division. We did awfully well one year in showing the pigs. We had several in the top pen, were sold in the top pen there. And that year we had the champion livestock judging team at the livestock show. It was called the California Livestock Show or Western Livestock Show. It was in the spring; it came along before the Nevada Livestock Show came on here. In fact, that was where the really feeding of beef and livestock

started, to go and compete at that San Francisco show. Elwood Boerlin and I think Archie Albright had taken some youngsters down there, used to take youngsters down there. We got so that there was youngsters going down there from Pershing County and Washoe County and Douglas County and Lyon County. We generally got together and loaded a big livestock truck with all the equipment we had. We showed as many as eight or ten youngsters down there. So this was quite a deal. Douglas County was always there pretty strong.

Go back to our competition within the state here. At that time of course, the livestock show was held in Reno out at the Fair Grounds. There were no corrals or very few corrals, poor facilities—awful poor facilities. And the number weren't large; if I remember right, there was fifteen or twenty beef, about the same number of lambs and pigs. But all over the western part of the state, the livestock show took root, and quite enthusiastic. We had the ETA boys and the 4-H show together. And it made very good competition. The competition between the youngsters in the counties and between the agents to see which one could have the youngsters have the top animals was quite keen.

About 1946, I thought I saw the necessity of having a livestock show in Lyon County. About that time Pershing County started to have their sale show. So did Douglas and Churchill. So we organized livestock shows in the county. And these were intended [for] several purposes. They were intended to give the youngsters a chance to learn how to show animals and the local people could see them, and build up support in the community, but also eliminate some of the poorer animals, because the Nevada Livestock Show here in Reno here was growing and it was a little hard to absorb some of the poorer animals.

Well, we didn't have very good corrals or equipment, so the next thing that was necessary was, have to build some panels for pens and I got some of those started. Then we used the various corrals, Shipley's yard and the People's Packing Plant. Sometimes we'd have it in Smith Valley. But eventually, we built a corral. We got enough enthusiasm in the community that we built some pens and corrals and scales in Yerington. This was on the school grounds; it wasn't intended to be a fair, a county fair building, a fair grounds. But eventually after I left there, they kind of reorganized and they now have a fair grounds (but not in the same place that we had it) that they have the fair grounds now. They use it for other purposes.

I can remember distinctly, the first shows that we put on were quite small. We always had a pretty good crowd and enthusiasm was good. Of course, the competition—a lot of complaints about, if they didn't get an animal into a good enough condition to show him at the livestock show in Reno—there was always this contention that, well, they oughta be allowed to show in Reno. And at that time, we were allowed to show more than one class of livestock, and most of the youngsters did. They had beef and lambs or beef and pork, or pork and lambs, and they generally had more than one animal. And later when I came to Reno, we had the job of first cutting out the numbers. They were allowed to show up to three animals in any one class. That is, three pigs or three lambs or three beef. And some of 'em did do that, but we finally had to cut it down to two, and then we had to, cut it eventually to one animal in only one class. And the shows kept growing. The last few years it's been oh, two hundred head of livestock at the showroom. -And I think that probably the numbers this year will even be greater than that.

It was always hard to locate good livestock, quality livestock. We had generally enough beef; we were in pretty good shape on beef. But we were a little shy of good pigs and we had some good lambs, but we generally couldn't get 'em to lamb early enough. You have to have 'em lamb in December or early January, so that they'll be the right age for late April or early May showing. So many times, we found sources of livestock around, particularly for the lamb, down at Dixon, California. We found sources for quality pigs at Lodi, and this was a yearly trek down there. It was quite a little job to get a truck and go down and get enough parents to pick the livestock and then bring 'em back and then pass 'em out. We had to draw straws for 'em, and numbers, and some were dissatisfied, but we managed to make it. We'd generally go down and buy ewes and lambs and pigs, weanling pigs that were just about the right age. We had some fairly good success, particularly with the pigs. We brought some good breeding stock back from Lodi and distributed in the area. We also brought in some pretty good ewes and lambs, although there was always good sheep. We had always had quality sheep; problem is, get 'em bred at the right time.

Douglas County started to bring in the Southdown lambs. Generally they'd go out and buy a Southdown buck and bred to Hampshire ewes. This made a very compact and fat lamb. And, of course, everybody else had to do the same thing. So we'd go down and buy two or three bucks at the California Lamb Sale—I think that was in Sacramento—and we didn't have too good luck. We did raise some nice lambs, but I personally didn't like 'em and they've practically been ruled out of the ring right now 'cause of the change in the conformation of the animals. And the Southdown was a short, chubby, fat-carried a

lot of fat; very nice to look at, but there actually wasn't very much lean meat in there. So now the Hampshire and the Suffolk have completely replaced the Southdown as a champion animal.

And we went through the same thing with pigs. Where they used to be rather short, and a little bit on the lardy side, we imported leaner and more meaty animals and various breeds. The whole livestock industry responded rather rapidly to the change in the demand. This now, of course, is showing in beef, it eventually showed up in beef. When we used to have the rather, what they called a "baby beef," it was a rather short animal, deep, and wastey, actually.

I couldn't judge any more myself. I never did like to judge because I was afraid I'd judge the youngsters instead of the livestock, so I never got into the judging end of it [laughs]. We stretched the—and I think they still do—showmanship. This was one of the big competitions; the competition was really in showmanship. And this, I don't know, if we had a youngster with a reasonably good animal, they might lose the animal blue ribbon or championship, but they could come back and handle that animal and win the showmanship. And this was very highly prized, and still is, I think.

The competition between the agents was pretty severe. It always felt good when you could come in and take at least one championship and when you could walk off with two of 'em, why, you just wiped 'em! I don't think there was any agent or any county that actually was able to take all three championships in beef, pork, and lamb. I came pretty close to it a couple of times, but I couldn't do it. I walked off with two of 'em on several occasions, but not all three. That what you wanted?

Well, I speak of competition. It wasn't a vicious kind of competition. It was just, we

were just proud of the youngsters that we had, and we were proud of the work we were doing and one of the measurements of success is to meet the other fellow. So this is where the competition came in and it gave you pretty good feeling. And they were all friends, the agents, of course, were all friends. It kind of tickled you a little bit if I could beat Charlie York or Archie Albright, or Leonard Anker or whoever was in Douglas County. And the youngsters kind of felt that way, too. They pulled for their county.

The preparation particularly for the showmanship was pretty terrific, grooming lambs, pigs, and beef. I got so that I thought I was pretty good at blocking a lamb. When I first started, I knew nothing about it, but I eventually, I had to learn how. There wasn't too many people around that knew how to groom animals. You had to teach. The agent had to learn a little bit so that he could teach the leaders. And now there's many of the leaders that are far better than the agents. But when we started out there was some question exactly of how should it be done.

There was no specific books. We had some information on how it should be done and some illustrations, but we came out with bulletins and this kind of thing that illustrated and told exactly how to groom and prepare livestock for show, and how the youngsters should act in showing 'em , and how it was done. It really upgraded the competition. It really upgraded the quality of the show.

There was big arguments, there's always an argument whether we should have 'em with the kids with the uniform or without a uniform. I know that there's a set uniform for 4-H and FHA, and there's jackets and all this. But those were quite expensive. We did use 'em quite a bit and the youngsters did look nice, but I think that they probably now have simplified it a little bit. It was expensive and it

was hard to fit the youngsters and there was quite a bit of complaint from the parents. It was costly to get all the equipment that was necessary.

As the agents became acquainted, and when the competition was a little bit tough, why, he was always looking over the fence, as it were, you know, at the next county, take a look at what the livestock they had, so that you could come back and kind of prepare for 'em . I used to like to do that. I used to tease the youngsters. I don't know, probably hurt their feelings a little bit. But I used to tease 'em about lambs, in particular, when they come out with a particular good lamb, I'd walk up to the youngster and say, "Gosh we turned a couple of 'em , just about the condition of that one, out on the range. It just wasn't good enough." This really hurt the little kid's feelings [laughing]. It was' fun to do it, you know. Or tease 'em about the razorback hogs that they had.

It's a funny thing about the 4-H program. In feeding, I found that there was a lot of complaint about this—how much should the youngster do and how much should the parents do and what should be the leader's role in there, and the agent's role. I never worried about that too much because I found that you had to teach—actually, the parents—proper livestock feeding methods. You could almost bet on it that if you didn't get the interest of the parent and the leader in particular, that you couldn't pass. You couldn't work directly with the youngster; no matter what you did with the youngster, why, the parent interference or the leader interferences in that didn't—you just couldn't get a good animal. They had to understand that that animal had to be fed in a certain way, at a certain time, and the pens had to be cleaned and the troughs and feeding troughs and watering all had to be just done precisely. And the feeding ration had

to be constant, and of good quality. And you couldn't feed too much hay and you couldn't feed too much of one and you had to watch their diet and you had to watch the animal, if he was sick or well. We had to watch their growth rate, and they had to be handled, so that they'd be gentle and would react when they were shown. And I found that before you could have a champion youngster, you had to have a champion parent and leader.

We talked about teaching youngsters, it's no different, I guess, than any other field. You have to start in, you have to have a basis for doing good work. And I found a rather strange thing, that you first had to convince the leader that feeding of livestock had to be in a certain way. And then you had to go back a little further and get the parent actually interested enough so that they knew about feeding. I think we probably taught more parents than we did youngsters how to feed well.

We got the livestock specialist from the University. Naturally, I had him out at club meetings, mixing the different grains and other ingredients that went into a feed, and actually with a scale weigh 'em. And then have the youngster do it, so they would actually know how. And we have the parents there, so that they would watch the youngster when we weren't there. And you had to stress the clean troughs, the clean water, the clean pens and all those things.

I just saw it develop in many families. You've got the leader and then the parent interested enough, so that they would actually read the material that you gave 'em or the material that they were able to get. Some of 'em actually went to the trouble of buying scales and feeds and feeding books, so that they knew what was going into the feed. And if you watch those families, all of 'em didn't win the championships, but eventually, many

of 'em did—their youngsters did. But they'd always come in, you could just bank on it, they'd come in with a good animal. And it wasn't hard work, it was pleasant. Since they were in school, you had to do a lot of that on Saturdays and Sundays. This kind of cut in on your week, but then we didn't mind that.

That's part of the competition. You have to; this is one of the things you had to do in Extension work. You had to adapt your schedule to your clients' schedule; your youngsters' schedule, too, because you couldn't cut in on their school classes and you were doing this over and above their regular routine, their family routine. And you had to work after school, nights, and Saturdays and Sundays. I guess some of the youngsters missed church a few times, but I don't think they minded too much.

Well, I found that in grooming you had to have good equipment, for example, sheep shears. I'd buy the best quality I could and then I had an Indian down at Yerington by the name of Dick, who had been a sheep shearer; he really was clever in sharpening and preparing sheep shears for shearing. So I always had two or three pairs of very good shears, one pair that I never even let the youngsters use, because that was mine. You had to have good whetstones, oilstones. I got to using the electric shears, I like 'em very well and particularly in grooming lambs. They were faster than the hand shears and I think you could do just as good a job. I never quite got the youngsters adapted to it, because all the books and everything showed the hand shears as the way to do it. But I kind of like the electric shears; it was a lot easier. (Incidentally, a lot of the youngsters learned how to shear sheep. They'd. have sheep shearing contests and particularly at this livestock show in California.) And of course, we had the electric shears for trimming the heads of the beef and

learned how to wash, scrub, and comb and properly, so that they would look properly fit when they came out in the show ring. They didn't fool the judges very much, but they sure looked good from the sidelines.

They've changed somewhat in the type of grooming, not much. In the lambs, I think now that most of 'em shear 'em down closer than they used to. They used to fit 'em out so that they were kind of box-shaped, and a given length of about half-inch of wool. I think that they shear 'em down a lot closer now and actually show the muscling and the animal underneath. By grooming, you could hide a few weak spots if the judge wasn't too clever in feeling the animals out. Sometimes, you could fool him just a little bit, not very much. And you had to get their feet clean, and all of that. And [know the] proper way to throw a lamb, and how to present a hog, handle a cane.

[When they] brought the hogs in—those are about probably the hardest there is to show. You bring 'em into the ring and they're all strange hogs, and they go to fighting and—[laughs]. This had the boards that you separated from fighting. And fortunately, nobody ever got hurt. It was a lot of fun, herding 'em around.

Ordinarily on grooming lambs, we never recommended the washing, because that takes the lanolin out of the wool. But we had one youngster, good looking young lady from California, came into Yerington and she took a lamb. And so she didn't say anything—didn't ask me or didn't ask anybody—she just washed that lamb. And it was, of course, beautifully white and she had ribbons on it and she had it all dressed up, of course. And she took the showmanship class. I think that's now become pretty much of a standard practice, to wash 'em a week or two before the show, so that some of the lanolin comes back

and they looked nice and white and their skin is pleasingly pink. They looked very pretty. But we didn't use to wash 'em, but now most of 'em wash 'em.

[I was telling you about washing the cattle for show.] Oh, in order to have the hair on 'em right and the dirt all out of 'em and the skin particles and so on, so that they look real nice, and if you get a good cold winter, they have a nice long hair and it doesn't cool off so that they start shedding, you have a chance of really showing a nice animal. Oh, you wash 'em probably eight or ten times, from the time you get 'em till the time you show 'em. And you have to, of course, comb and brush 'em and then you generally add oils, some kind of a hair conditioner so that they'll shine [laughs] and gleam. Then you polish their hooves so that they'll look black, and you trim 'em so that they'll look neat, and so that they stand right. These are all things that has to be done so that when the animal comes out there, he really is a show animal. And I stress that quite a bit, because I always felt that when a youngster goes to all the trouble and all the work that's involved, the money that's involved in a livestock project, when he comes out in the show, he is showing that animal to his neighbors and to the general public. And they should make a good appearance. I've always insisted on that.

I've covered largely livestock projects, but we had, of course, many other projects. I tried to develop each one as much as possible within its field. For example, we had classes in agronomy. And then, well, we had 'em before but even more so when we showed at the Washoe County Fair and later the Nevada State Fair; in Washoe County, we had judging contests for 'em, identification of plants. Of course, there's sewing contests, and there's cooking contests and all that. In order to have a good sound program, you gotta try

to include all those youngsters. No matter what project they got, you've gotta have 'em someplace that they can show that project to the public. And this was always one of the things I insisted on. We did try to do that; sometimes we weren't so good, but sometimes I thought they were pretty good. You don't want to stress one project more than others. We got into the mechanical project; electricity, and this kind of thing.

When I moved in here, we had tractor-driving contests. And we actually had youngsters, several of 'em, that went back and drove in the tractor-driving contest in the East. We never particularly came out on top. I took one youngster back once to South Dakota, Bismarck, I guess, South Dakota. Boy, those boys were really sharp: They gave 'em tests, written tests, oral tests and then actually driving. And those driving contests were tough, and generally, we ran into boys that were older and more experienced.

We eventually developed judging contests, livestock judging contests. And we had youngsters go back to several, went back to Denver. And they went up to Portland. But we were always competing against older youngsters. The only one real big one, won the one down at San Francisco International livestock show, there. I think they allowed us to enter all the youngsters that we had there. So the senior team, I think, had five or six boys and I had four of 'em enter, I think it was, and they picked the three highest and I happened to have a youngster that, I don't know how good a judge he was, but he had kind of a photographic mind and I had the assistant agent give him some pretty good lessons. We thought he was our weakest judge, but by giving him the lessons just before the classes took place, he won the biggest handful of ribbons that I ever did see [laughs] He had ribbons for everything High point man and

everything, actually high point man in the contest: We won a big three-foot trophy that we brought back.

Sometimes things happen in rather odd ways. For example, as I said, previously, our quality of hogs wasn't too good. And there was a family that had a couple, three youngsters in Smith Valley and in those days, the way they raised hogs, they kept 'em in pens during the summer when the crops were growing, and then turned 'em loose in the fall. And they wandered around all over the neighbors' ranch and their own. All of 'em had some out, so it didn't make much difference. But anyhow, this family had kind of nondescript hogs and they happened to have Durock, mostly Durock.

The neighbors happened to be Doctor Ross, who had the Ross dog and cat food business and he had bought a ranch there and he had brought in some very high prized or very good blooded champion Berkshire hogs. And he had a champion boar there. And this sow, during the course of her wanderings, wound up there and crawled into the pen with the champion Berk, and I guess she was bred. Anyhow, she showed up pregnant at home, and she had a litter of eight or ten pigs. And they were really very, very high quality pigs. The youngsters took, I think, three of 'em to San Francisco. And they won two five-star class and one three-star and then we showed the rest of 'em at the livestock show here in Reno. And they rated very high in the competition. The judge, who happened to be Mr. Hughes from the University of California at Davis, really praised the three hogs very highly and he kind of inquired about what particular breeding they were and I told him how it had happened and what the breeding was and he got quite a kick out of it [laughing]. But the hogs were pretty high quality.

[And Dr. Ross never found out about it.] I don't think anybody ever told him [laughs] his boar had fathered champion hogs.

I talked a while ago about giving all the youngsters a chance to not only show their products, but to have some pride in the projects that they had. And give 'em a chance, all the chance they want. And I wanted to mention that we started very early, and started with beef or with livestock. After the livestock shows, the beef were slaughtered, of course in slaughter houses, and I started the first year taking those youngsters through the slaughter houses to see how the carcasses of their animals looked, so that they'd get a good view. We started later, when I came into Washoe County, if they had garden projects, we took 'em down to the stores and the big stores here in town. And we actually showed 'em how vegetables were displayed and sold and the quality, so that they could get the quality. We took 'em to the wholesale houses, produce houses, so that they could see how the products were purchased and in large quantities and then they were broken down for the delivery to the stores. I wanted to show the whole process, of how the vegetables got from the garden, from the producer actually to the consumer. And, of course, they were aware of the canned fruits and vegetables, and so on and so forth. But we'd try to give 'em that whole picture of the marketing end of it, so that this was actually what they call now a career training or orientation. And we started this twenty-five years ago.

Of course, we talked about livestock projects in particular. When a youngster works with an animal for five or six months, or three or four months even, or sometimes as high as one year, they become fairly closely attached to 'em and this was kind of a tragedy and a heartbreak when they have to bring 'em in to show and sell 'em. They knew that they

were going to slaughter, so there was a lot of tears shed. But they got over it and next year, they would be back with another one.

Talking about livestock projects again, I often compared moving of a group of youngsters with all the animals and the paraphernalia that you needed to go to a show into either Reno or San Francisco—I likened it to a circus. You had to get the transportation and you had to coordinate all the livestock in one spot, and all the youngsters at one spot, and all their feed; little bags of feed and bales of hay and load it all on and unload it. Then get 'em placed in their pens and the kids settled down, this was quite a process. When they first started to come in, we used to try to house the youngsters here at the University. The girls were usually generally housed in the dormitories, the girls' dormitories. The boys brought in their bedding, and we housed 'em in the old gym. This worked out fairly good with the little boys, but it wasn't so good with the big boys. They'd wander around downtown and then come back about two or three o'clock in the morning and wake up the whole gym, turn the lights on, and this caused quite a little racket. And finally we got so that we would charge 'em so much and rent rooms at a motel; we generally took over a motel. And we could house the youngsters for two and a half or three dollars. I imagine they're having a lot of troubles now because the motel rooms are so high. I don't know how they do it. They're moving in the livestock, they don't move 'em like they used to because there's more trucks, individual trucks, and the parents are more interested and they have pickups. Some of 'em even bring in their trailers and stay with friends or some of 'em stay in town. But it was quite a process when, particularly in the '40's, when the parents were interested, but they generally turned the youngsters over to the agent and to one

or two leaders. So you came in with thirty or forty or fifty youngsters. And that was quite a little job to move 'em around. You had to have 'em in close proximity to you to know that you could get 'em down in the morning, get their breakfast and get the kids over to the livestock corrals, so that they could get ready for the program to go on.

I shouldn't brag. Competition was pretty keen and, you know, we always tried to, as I said before, we tried to get championships. And I think that at the time that I retired, between myself and my assistant agents that I had in the county, I think probably we had more champion animals than any other agent or county in the state. Charlie York might dispute this [laughs], but he's been there two or three years since, and he might since of have passed me up. But at the time of my retirement, I'm pretty sure that I had the most champions.

In the '40's we still, as I mentioned before, we didn't have county 4-H achievement days or fairs. They weren't too well developed. The first time I ran into 'em was down in Lincoln and Clark counties, in '34 and '35. Mr. Wittwer had done some pretty good work there and he'd gone to the county commissioners and in each, Clark and Lincoln counties had been appropriated a little money for livestock shows— and I really should say 4-H Club fairs. We didn't have the numbers of the youngsters, and they weren't well organized. So I tried to put them on in '35; I think they started in '34 and '35, and '36 in there.

And it was the case of using the facilities that we had there. We generally used the high school facilities. I had no—what do you call 'em —premium books and so we had to develop our own. They were quite crude and rather rude. And we tried to hold it in one day and this was very hard to move all the youngsters in. But the leaders and the

youngsters cooperated. They were small as I look back at 'em ; I had one, two, or three of 'em . I did those in Lincoln County and then I went down and helped run those in Clark County, so that they could get 'em started down there. I don't know how—I don't think they've got 'em going any more.

We had quite a bit of money and so our premiums were fairly good and the youngsters used to try to get their stuff out. We didn't have very much livestock there. We generally went in for just the girls' projects (cooking and sewing) and the vegetable gardens. I had some pretty good vegetable gardens developed there, projects developed there. And then, of course, when they moved into Lyon County, that was when we first started getting the achievement days together in the fall. We didn't have very much premiums, but we tried to give 'em something. And the ribbons were quite a little prize, highly prized.

And then, of course, when I moved into Washoe County, the Washoe County Fair had been going two years. And it was held at the fair grounds. They put up tents, and the space was small, and we hadn't developed a very good system of displaying, and the buildings weren't done—the whole thing was pretty crude yet. They have some fine buildings there now. We worked with tents and sheds and what-have-you.

I remember the first year I moved in, in 1954, I had never put on anything quite as big as this. I didn't realize what was going to happen. We wound up at the fair grounds down there in a tent with the judges there trying to judge, and put up the exhibits, and we were still judging on the last day of the fair—four days at the fair— which was not good. So I corrected that the next year by having all the projects all brought in and prejudged, so that when the fair opened all we had to do down there was set 'em up and

make display of 'em . And the people could come in and see them already judged.

They've done a pretty good job since then. It hasn't grown as much as I'd hoped it would, but it's hard. All the competition that you have for the time of the youngsters, from school and other activities that they have, it's hard to find time to devote as much time as you'd like to it.

I believe in club work. It's the best youth program that there is. You have your leaders and—they're God's people. And they have the interest and they have talent and they give of themselves and their homes and their time. They take youngsters that probably come from less advantaged homes, and they instill into them a pride of work and a pride of accomplishment. And there's a lot of it if it's handled right. Then there's a lot of support from the parents, they tie as a family, very closely together.

It's probably one of the best programs that I know of that combats some of our present problems; drug problems and all that we have. It's too bad that we can't give it to all youngsters. Just all youngsters are welcome, but we found—I don't know if I mentioned it before, but we hit the middle-middle income groups, we got a few out of the high income group, and we got very few out of the low income group. They were stratified. And I just don't know how to do this. We welcomed the minority races; we worked very hard with the Indians (and we did get some Indians participation, but we had to work very hard for it); and there wasn't very many colored, black people when I worked here. We only had one or two youngsters actually come into the group. We never could reach 'em , we couldn't get the leadership and I think that [in] any program, the leadership has got to come from the community, the actual community in which people live. It's got to be made available

to them, but the parents and the leaders have to put forth that little extra effort, if they're going to influence their youngsters at all.

I think that the important—and this is in training any youngsters or of oh, let's say, nine to sixteen or seventeen years of age. They've got to have a goal. It's a project, but it's actually a goal. Something to do that's definite, and they do it themselves. And with, of course, help from the leaders and their parents. And I don't think that any program can be too successful, if you lose that project. And I think they've cut down the requirements of finishing the project book; writing it up, in other words. But I think that this is a mistake. You have to put that down, the youngster himself or herself has to put some effort into the project to become actually involved. They become involved. I think that many of the other programs, while some of 'em are very good, they don't have the basis of the project. And I think that that's why club work has been quite successful.

AGRICULTURAL EXTENSION WORK IN WASHOE COUNTY, 19574-1967

INTRODUCTION TO WASHOE COUNTY

In the spring of 1954, Archie Albright, who was county agent in Washoe County, called me and said that he was going to go into private business and asked me if I was interested in coming to Washoe County. And he and I were good friends. I wasn't quite ready, but my family was growing and I felt that if I wanted to put my boys through school that I had to get in close to the University where I could afford to send them. I talked it over with my wife and we decided that we would try for the job, and I asked Mr. Buckman if I could move in and he recommended that I do. So on July the first, [1954], I moved into Reno and Washoe County.

It took me some little time to, again, make the change as I had made the change from Lincoln County to Lyon County, Lyon County to Washoe County. Local conditions were somewhat different. Agriculturally, Lyon County was much more attractive and better to work in. But Reno was moving at that time, already Washoe County was moving pretty

much towards urbanization and the problems were again somewhat different. That was a transition period. So I came in here and it took a little bit of adjustment.

I was familiar with the county, having been born and raised here. In Lincoln County, it was strictly rural and mining. In Lyon, it was a little bit more urban and more intensive and better agriculture. I moved into Washoe County and found the situation quite different again.

In 1954, Reno had already started to grow and some of the agricultural land was being absorbed by the city for other uses. The impact of people was already being felt. This is where I got tangled up with improvement of ditches and fencing of ditches, because the children were drowning and some of the farm land was going into subdivisions, and ditch changes had to be made and water changes and to be made—drainage, and so on and so forth.

I don't think that Washoe County was as well advanced in agriculture as was Lyon County. But there was a different situation. I think that generally speaking, the ranchers

and farmers had more money. They were probably not as progressive agriculturally as they were in Lyon County, because I think that most of 'em could foresee that there was changes coming. They were a little reluctant to make any changes from what they had been doing because the community, the life, the industry of the community, or the character of the community, I should say, was changing from agricultural to urban. I found them all jealous of their water and drainage rights. This was one thing; you just didn't fool with those very much. You have to approach them very gently.

The day of the big sheep man was already past in Washoe County when I arrived here. There was still a number of sheep men and they were having their difficulties in running sheep. Some of 'em had been using the Sierra Nevada as summer range. And it was the start of the tourist and the campers, and the recreational use of the mountains was already on its way. And the use of the roads for driving cattle and sheep was already practically nonexistent when I got here in '54. They had to move those livestock with trucks and this was an added cost. That, plus the restriction that was placed on 'em from the use of the forest lands and the private lands in the Sierras, plus the restriction that was being put on the uses of the desert lands, ELM lands, for grazing use in winter, plus the cost of handling that livestock, trucking 'em, plus the labor costs, all played into a further deterioration of the sheep industry. And at one time, I think there were about 175,000 head of sheep based in Washoe County; that is, headquartered in Washoe County.

The cattle industry was not quite shaken as bad as the sheep industry during this particular time because they operated a little different and they had larger home bases for winter feed and uses. But they were also driven

out of the upper Sierras pretty much by this time, or were being driven out. So that also went into a kind of a deteriorating situation. And the dairy industry was still fairly large. I think that when I got here, there was about twenty-five or twenty-six producers of Grade A milk. And there was still a few producers of butterfat, but by '57 or '58 all the butterfat producers disappeared, the smaller Grade A producers had either sold out or consolidated and absorbed into larger ones. It wasn't very long before we were down to ten or twelve Grade A producers; I think now there are probably four or five of 'em —probably six or eight in Washoe County. That was a kind of a odd situation, too, because the early producers here recognized the fact that they had practically a closed market, you see. And they got the city to put on local ordinances that helped keep milk out from out lying areas. And this was—they were selfish. But it wasn't altogether due to selfishness, because the transportation problem was still there, you see.

Refrigeration, for example. If you had Grade A milk in Fallon thirty years ago, or thirty-five years ago, you'd've had a pretty hard time getting it in here in a very good condition. They had no refrigerated trucks. They handled everything in ten-gallon cans and you could see that it was— actually, the product would have deteriorated. So as the industry shrunk here, it expanded on the outside, on the outlying communities. So we use more milk now than we ever did because the town is larger, but its source of supply has gone to Fallon and Yerington and Gardnerville, where it was all produced here locally.

When I came here, there was still a little industry— farmers still produced a few pigs for local market. And there were the slaughter houses that handled them. And

now, they eventually went out. And they went out for two reasons; first of all, it was uneconomical to produce 'em and they could do something else with the land or their resources and probably make more money at it, but also the means of slaughtering 'em , a place to slaughter them. There was several slaughter houses here at that time that sold 'em , slaughtered, and sold the whole carcass to butcher shops. The method of marketing now is entirely different, where the butcher shop orders certain cuts of meat. This is also good, because you can just imagine—what can you do with lard, for example, that you have to get from the fat of the pig? You have no plants here; you can't handle it.

Now, when the Nevada Pack was performing a lot of those services, and if you just had to slaughter hogs and cut 'em up for the markets—what are you going to do with the cuts? You have to trim that trimming from the carcass. There's just nothing for 'em to do. So a whole combination of factors move that around.

The same way with poultry. When I came here, there was still a number of poultry farms that were producing poultry. But we don't have anybody handling local eggs. There was several plants years ago that actually gathered eggs and sold 'em under trade names, local trade names; those are all gone. We eat as many eggs probably, they're as good, but they come in from the outside now. The feed supply disappeared, grains, local grains. There was quite a bit of grain produced here; now there's very little grain produced here. The methods of feeding and carrying for those, for that poultry, changed a lot.

I just put it this way, that they found that they could take a poultry house and make an apartment house and have people living, and it was more profitable to have people living in the poultry houses than it was to be

inhabited by laying hens. And this was one of the things that happened there. We didn't have, of course, the so-called recreation. That is, gambling, and so on and so forth.

The other thing that happened—I came in here and noticed the farm girls, women folks, and the young ladies had not very many opportunities for jobs. But here, even the farm girls came into town to work, they found jobs. Young men off the farms came, worked close by. Of course, this happened in the more rural communities; in the rural communities, they'd have to get up, come into town. But here, they lived on the farms so there was a different kind of an income in the family. You had to recognize that, and it's recognized all over, that pretty near all farms have additional income besides the income that comes from the farm or ranch.

When I came into Washoe County, of course I was acquainted with many of the people that lived here, both in the agricultural sphere and the business sphere. Some of 'em , I had gone to school with and they'd moved up. So I was pretty well acquainted and knew my way around. As to the social life, it's kind of an odd thing, but the area around Reno had already become suburban—that is, the horses were there and some of the larger ranches had been cut up, so that these people retained a kind of an agricultural outlook. They were actually urban but they retained that agricultural outlook. So I fitted in pretty nicely with it, and it was very good for Club work.

I found that the agents previous to me had really worked with the agricultural people and all of a sudden we found ourselves with this expanding suburban and urban population. And we had some prodding from the state office to get into this field. And it was necessary, so we adopted our programs to fit into that. Now, Miss Hayes was a very

good agent, but she had worked strictly with rural people.

And the odd thing is that the rural people had become pretty well urbanized, even in 1954. They had eight or ten homemaking clubs, for example. They were tied in with the Farm Bureau; this was an auxiliary of the Farm Bureau. Well, the Farm Bureau had changed its function and of course, the homemakers didn't feel that tie-in very closely any more. Some of the older members felt it, but there had been a lot of younger women come into those and they had no loyalty, or they didn't know what the function of the Farm Bureau was.

So one of the things that we had to do there was revise our constitution and by-laws so that we separated 'em from the Farm Bureau entirely. We created a Homemakers Council, which we still kept in contact with the Farm Bureau but we expanded into the business community, into the town functions, quite a bit more than we had before.

When I was in Lyon County, we still had the Farm Bureau community meetings. When I came into Washoe County, I found these had largely disappeared. They still had some of 'em, we still had some of 'em, but they weren't as important or didn't take as much of our time and they were rather restricted in their activities.

They still helped us with the Extension work and the 4-H Club work, And the movement of the country people into town actually helped us a lot with the introduction of Club work into the community. We had to change our projects somewhat and we had to change our method of operation.

WATER, DRAINAGE, AND IRRIGATION

[In Washoe County], we had the Farm Bureau, we had the Soil Conservation Service,

the ASC; those organizations were pretty much the same, but they were oriented a little different. There was a different view on their function, they functioned a little bit different, so I had to get used to that. We had no over-all irrigation district. There was a district here, but it didn't perform the same functions as the district in Lyon County. It was a little bit different than the irrigation districts or ditches in Lincoln County. So I had to acquaint myself although I was familiar with it, because I'd lived in Washoe County. For example, the ditches and drains and all were pretty much privately owned, where in Lyon County, there were a mixture; that is, county-wide or river-wide, valley-wide, and there were the private ditches. And I had to get acquainted with the leaders, dig out the natural leaders. I had to, again, reorient myself with the problems that were here. And it took me probably about a year to accomplish that. It took me actually probably longer than that, but I started to catch on in about a year [laughs] what was going on. How to get around and do it.

Of course, I worked with the Farm Bureau to some degree, but they were a little bit different oriented, and with the ASC committees and the Soil Conservation Districts. I didn't pay exactly as much attention to any of the older organizations. I found, for example, that we needed drainage and we needed the river cleared. So I organized the Vista Water Users for that purpose. And again, I got Mr. Reed to organize them in a legal way that they could function. And I recruited membership in that organization.

We had one particular purpose; it was for the benefit of the land and the water. And that way, we could apply much more pressure on the various governmental agencies that were concerned. This is another thing I found; we had to deal with the county, we had to deal

with the city of Reno and the city of Sparks, we had to deal with the state, and then we had to deal with all the various federal agencies. I found that organizing the Vista Water Users gave me that opportunity to actually—I had a vehicle in which I could function. We, of course, didn't overlook the ditches. You see, then they had to go back to the private ditches, you see. We had to work with them for certain improvements. But we could always use the overall organization, which was Vista Water Users, to apply pressure or to guide and kind of coordinate.

We had officers in all these organizations, but I found that the agent had to be the leader. Except that you had to be the invisible leader [laughs]. And I found that this was a very good way to doing it because you didn't get as many legal or political entanglements and you got much more cooperation from the people. They felt that they were actually doing this. You spread an idea and they helped you spread that idea and they helped you smooth the rough spots out, which as an agent you couldn't do. And we could either cooperate or we could oppose. I had an organization that we could either cooperate or oppose any particular program that was, sometimes proposed by another agency or proposed by another group. You could very gingerly oppose it and not get into trouble as the agent. Or you could cooperate and get the same results, you see.

I think that all agents should learn this lesson; it's one of the things that, to me anyhow, was one of the keys to—at least I consider I was a success and I think that it helped me, putting over the things I wanted to. This gave you a good relationship with people that were concerned. You could approach 'em and get their ideas. And then you had to formulate those ideas into a program that would be effective.

Drainage, for example. You actually had to get the idea that you're going to drain some land and improve it for production purposes. But you had to finance that and you had to get away from the legal entanglements that were involved. And I invariably found that the farmers or ranchers didn't have the money or didn't want to spend the money. And you had to wait till you found a situation in which the local agencies, the city of Sparks, Reno, or Washoe County would also benefit from that. And when you found that situation, you could bring around pretty rapid success.

Just as one example of this; this is on drainage. The University farm, they purchased the main station farm, which is out at Vista, and it had always been rather in a wet area. And they had a survey made of how to drain it so that it would improve the production on it. I think they spent about twenty-four thousand dollars or so on it. Well, I read that program, the proposals, and they were very good, but it involved pumps and a lot of things, and nothing had happened. So the first thing that we had to wait for was the removal of the reefs. So then I had to come to the next thing that had to be done, and when that was done, the river dropped about four or five feet in that vicinity.

And then the next project that I had to get was the lowering of the Steamboat Creek. And when I got that done—. On the first one, on the removal of the reefs, you see, we had to get the state involved and we had to get the city of Reno, Sparks and the state involved, and the federal government through the Army Engineers—had to get those all involved and working together. And I had to get the local people involved so that they would be in favor of it. And when that was done, then we got the Steamboat Creek done, and I got that done through some of the land owners that were there and the University Farm. I think I

involved the county and the city also, to some degree. The county in particular.

Then we found that this permitted us to put in what is known as the Mapes-Questa drain. Now, the Mapes-Questa drain went up through the University Farm and up through one or two other ranches there and finally ended up at the airport, Reno airport. Well, the Reno airport had been placed in a kind of a more or less of a swamp. And they couldn't hold the runways and they were having troubles. And I put it this way, that their feet was wet and it was hurtin' 'em, it was hurtin' 'em. About that time, the Sierra Pacific Company had purchased a ranch immediately west of the University Farm on Mill Street and Boynton Lane. They had wanted to develop into an industrial park and they were having some troubles with drains. So immediately situation presented itself, that here was a easy way of doing it. So I got all the farmers that were left down there together, plus the Sierra Pacific, plus the University, plus the Reno airport. And here was a way that we could do it. Finance it and put it together, and actually create a situation that was helpful to all. I just found one man that didn't want to cooperate. We went around him a little bit and then he complained that he didn't have access to the drains, so we fixed it so that he could—I wrote an agreement and it was signed that he was entitled to drain into the new drain. And it didn't cost him any money.

But the reason I've gone into this in quite a little bit of detail—sometimes there's a project that is apparent to everybody it has to be done, but you have to wait until all conditions are right to put it over, if it's a cooperative deal. And that moment doesn't last too long, that period of time doesn't last too long, and you've got to be on your toes so that you can present it to each individual at the same time and

get 'em in agreement. And I worked quite a number of 'em in that same way.

[This removal of the reefs wasn't done without opposition.] We're going to talk a little bit about the clearing of the reefs. And that might sound as a very simple process. Actually, they were not rock reefs; it was just an accumulation of debris, rocks, sand, and gravel that had been washed down from the side, helped to some degree by actually the state highway (they put this highway down there and dumped the rock into the river), helped further by the fact that right on top of the reefs was a dam—a diversion dam—for the lands in Storey County just east of Vista. And they had piled great big rocks on there which wouldn't wash out, and at one time it reached the point where there were only about 3500 feet of water would go through the reefs before it started flooding the Truckee Meadows.

To go back a little further, the removal of the reefs was proposed I think by Director [C. A.] Norcross. I saw an actual write-up—it was actually proposed probably seventy or eighty years ago by somebody. Anybody that could look, you see—here, when a little water came down and impounded in the lower reefs, in the lower Truckee Meadow-. Director of Extension Norcross, I think, was the first man. And I saw a plan of it; I don't know where it is now, but I saw a plan that he had put together with certain drains and removal of the reefs and for improvement of that area down there. And his estimate, if my memory serves right, was that seventy-five thousand dollars would do it, and it could be paid for by the improved crops on the land. And this was in 1917, I think it was. But it was proposed many times before that. Well, anyway as things developed on the Truckee River, the development of upstream storage on the Truckee River, starting with actually

Lake Tahoe when they had the storage at Lake Tahoe and then down through Boca reservoir, and then when the movement started for the so-called Washoe project, this tied in all into the Washoe Project.

I'd like to give a little credit—a lot of credit—to one man who worked for the Sierra Pacific Power Company. I'd like to give a lot of credit to Geroge DeVor who was an employee of the Sierra Pacific. I think that he was probably the leading light in the so-called Washoe Project. He acted somewhat selfish for the Sierra Pacific, but I think that his overall concern was with, actually, the community. And I don't think he's ever been given that credit. But I used to attend meetings and I'd get kind of rather peeved with him, because he was always pushing for certain things that I thought were strictly for the benefit of the Sierra Pacific. But actually, when I look at it now, I can see that the man was in a much wider view and much greater scope in his thinking than purely for the Sierra Pacific Power Company.

The Washoe Project, as developed by the Bureau of Reclamation and the Army Engineers, involved the upstream storage of water at, first of all, Tahoe and Boca, but also at Prosser and Stampede. It even went a little further in that it did include a dam on the main stream at Verdi, which was for both flood control—it was mostly for flood control. Now, the original project took in many things; it stored water, it prevented floods, and it developed power. And this was in the works for about twenty years, I guess—fifteen or twenty years—before anything was actually done. And in that was involved all the politicians and the local agencies. Then they organized the Carson-Truckee Conservancy District and then the Sub-Conservancy District in Douglas County, and then they worked with the Truckee-Carson District

(Newlands Project). So they were all involved in this, as I say. It looked towards conserving water—I should say making more beneficial use of water—and development of power, and flood control.

Now, the first thing that dropped out of that was the development of power. At that time, they figured that they could store that water, and through tunnels and building of a power plant, they could develop power cheaper than they could manufacture it. In the meantime, after it had all been worked out, they found out that it was possible to develop power cheaper with oil or gas or coal use. So that was dropped. So that immediately removed one of the main reasons. But it still was, the way it was figured, that it was still beneficial to put it in, because it [meant] flood control and then the proper distribution of water.

Now, in that proper distribution of water, it assumed that the Carson-Truckee Conservancy District would claim that water, all that surplus water that was up there, and it would store it and they could sell that water at a price to users downstream. Well, if we look at it now, the thing would have been off kilter now, because the Indians have claimed all the water. It's very fortunate that Prosser and Stampede were built and Martis had been built. It is giving us some considerable amount of flood control and it has created the storage capacity there. Unfortunately, the Conservancy District has nothing to sell, if the water all belongs to the Indians, or to the users before that. They have nothing to sell. I don't know how this problem is going to be resolved, because actually, while part of it was assigned and it was non-reimbursable (the flood control feature of it), the reimbursable portion was assumed that the sale of water would take care of that. And if that isn't there to sell, I presume that somewhere, somehow,

the Congress or somebody is going to have to pass a law and charge it to the general public, because I don't think they're going to tear out the upstream storage that has been created on the Truckee River—or some other means of financing.

Now, Senator McCarran was very influential in getting the Washoe Project approved. And Senator was quite a brilliant man and he owned property downstream, below Vista. So he saw to it that a provision was made that the Vista reefs would never be removed until work was actually started on upstream storage. Work was started before 1959 on Prosser and work was anticipated on Stampede and the rest of it, so actually, this opened the way to remove the objection that the downstream users had to remove the reefs. And actually, it had to come in at the right time. So in 1959 and '60, the Army Engineers, appropriations was made for about a million dollars to remove the reefs. And this is when I came in to the picture to organize and help get that going.

There's another man that played a big part in that was Mr. [Ernest] Kleppe; he was a county commissioner here. And he was very much interested. Mr. Peckham was a county commissioner. I don't know as the agents at that particular time played too important a part in it. I don't think they did. Scrugham was influential in that, and so was Molly Malone who was a Senator at that time, I think at some of the time in there. They were all influential. Of course, they had the support of the state engineer's office. So in this project, nobody can be actually pointed out as being the father of the project.

If there was any so-called father of the project, I think it was Mr. DeVor, George DeVor, 'cause he stayed with it through thick and thin. He fought local interests. Most of the farmers and ranchers were actually opposed

to it, because they visioned it as depriving them of their water rights.

What actually had been doing out on the whole river was that they were not only taking *their* rights, but they were using a lot of extra water or they had practically free use of any amount of water that they wanted. You see, they had water rights and those were definitely established by the Talbot decree. And the Talbot decree gave, except for the established water rights, they gave all the water rights to the Newlands Project. And this was before, actually, the Indians started to challenge that concept. And they actually claimed many more rights, actually many more water rights, than they actually had use for the water, if we go on the beneficial use of the water that must be beneficially used.

Then I came in at that particular time. I happened to be in a favorable position. When I came in here, we had quite a few arguments going between the ditch companies in the city of Reno and Sparks and the general community. There was children drowning in ditches. And the first meeting that I had, the first time that I actually got involved in it, was that the city of Reno was threatening suit against the ditches, to close the actual ditches as nuisance, public nuisance, and make 'em cover 'em. Well, that would have been a—they just didn't have the finances to do that. So everybody was concerned, so it gave me a beautiful chance to step in there.

I called a meeting. I looked up the presidents of all the ditches—I think there were nine or ten ditches at that time that were operating—and I called a meeting to discuss it. We organized a ditch committee, you see, to present their problems add their opposition, actually, to the cities of Sparks and Reno and to the Washoe County. Among those was Roger Teglia, that represented the Sullivan-Kelly ditch. And he became a very

valuable man to have on our side, 'cause he knew water, and he knew politicians, and he wasn't in a political field.

And the first thing we proposed was fencing ditches, and this kind of thing. And then from that, we progressed to consolidation of ditches wherever we could. And this is where I played a role. [It] cut out quite a few ditches, because some of the lands were coming into the city, and didn't need water any more, but there was some land that had to be irrigated. So we managed to convince the ones that were left in the ditch that would be moved to another ditch and then give 'em an outlet from that ditch for their land, for their water. And we pulled this on eight or ten of 'em ; we closed quite a few ditches, you see. This was a saving to the city of Reno and the county and the farmers, and it allowed a better development of urban development, with a removal of some of the ditches, you see. And this is where I played quite a little part. I was cussed and discussed on quite a few occasions, but whenever I saw a situation that I could bring together, I brought it together.

I found the various governmental agencies were very cooperative. All you had to do was point out how much they would save in street crossings and the danger to the population of kids, so on and so forth, and they came through. I don't know where they got the money, but they came through and they helped the farmers. Sometimes they bore all of the expenses. Sometimes we were able to work with the ASC and the farmers and gather some of that money, but most of the time we worked directly with the local agencies that had finances. It was a big saving to them and I didn't find it too hard to approach 'em , and actually work money out of 'em for that particular project. This is where I think I was very effective in that.

I know that in the case of the airfield, that I gave them a great deal of help, I gave 'em a great deal of help. I also made some suggestions on the handling of the water so that the water table would go down. And as the irrigation became less, you see, there was less drainage and we removed much of the underground water. Along with that, we were able to—. I know that the wildlife people, if they had been organized as well as they are now, they would have opposed much of that, because we drained a lot of ponds.

We did it for land improvement, or land change, but we also got rid of a lot of mosquitoes, and a lot of frogs and so on and so forth. This is wildlife. And I know that there was quite a few ducks that didn't have a home any more, and carp didn't have a home any more, but when you're in a community such as Reno and the land must be occupied by people, you had to remove some of those hazards, some of those handicaps. And this was done in that way.

In '59 and '60, you see, the objection that was in the bill—original Washoe Project bill—was removed and then the Army Engineers could go on ahead with the removal of the reefs. And this is about the time that we went from the ditch company; I organized then the Vista Water Users, because it was a bigger project and it involved more people, you see, and it was a little different sort of a thing. And we had to push it that way. I had a number of officers that were very nice people to work with. I think Art Kleppe was actually elected the first president and is still the president of the Vista Water Users. They've kind of run out of jobs a little bit, because that particular work that was involved in that has been cleared up, you see, and they have not taken any other jobs on.

When the Army Engineers went downstream, we ran into some opposition

from the Fish and Wildlife people. And I know that if the environmentalists had been organized as well as they are now, we'd have run into them. But it was a case of having to do this, because that river had not been maintained, ever been maintained. And there was a big accumulation of logs and trees and debris stopped up, so that when flood waters came it not only flooded in Truckee Meadows, but actually at one or two years, down at Vista, down at Thisbe, it got so bad that it actually stopped the intercontinental train, and actually came up off the highway and stopped the US 80, closed it off for several days. Then we had erosion problems and this kind of thing. We later revised programs to riprap those banks so that there'd be less washing. That is still going on and there's still some kind of controversy over it. I'm doing a little work on it now.

When we speak of the Truckee Meadows, we mean an area of about 30,000 acres, lying east of Verdi, west of Vista, and from the Spanish Springs Valley to oh, to Washoe Lake, roughly. And this was developed early in probably—they started developing actually in about 1860, started to divert waters from the Truckee River near its banks and started to develop the area. Well, we have a number of creeks that come into the valley from the west, Mt. Rose area, but our main water supply, of course, comes in through the Truckee River. Now, the Truckee River west of Reno flows through a rather restricted valley, and then it starts to open up just west of Reno. And the general depository area is through Reno and as you approach the state hospital in Sparks is the end of the deposition area, and you come into actually a lower area and rather fertile—used to be fertile—land area that produced grasses, mostly. As you go east, as I mentioned before, the Vista reefs were there and they prevented a large volume of water

going through there. And naturally, when the river rose to any great amount of flow, it flooded that area. And roughly, it covered the flood basin there, I think it's about 4200 feet, somewhere there in the neighborhood, and it meant about four to five thousand acres of land in that area, maybe as high as—big floods, maybe as high as six thousand.

About 1959, the Vista reef had been both naturally closed in and man closed in, so that at the rate of 3500 second feet flow, it would start to flood. And as the water came in, it would raise higher and higher until eventually it went out, but by that time it covered five or six thousand acres of ground. And then since the flow was restricted, it took a long time to drain off and the land there would sometimes be under water for five, six weeks or longer. So this made it very hard to develop; you couldn't develop any buildings or anything permanent in there. And agriculture had to be of the very most primitive type, because these floods came periodically. You couldn't tell, but every four or five years, why, you'd have one of those floods and naturally it would kill permanent crops. Only grasses, native grasses would grow there. So this is one of the first jobs, and one of the very important jobs, that had to be done—clearing the reefs—I mean that had to be done to alleviate that situation.

When the city of Reno selected a spot for the airport, they selected kind of in the southwest of the flood area, but still in a very low area. Irrigation was all about it, and it was rather difficult to put down landing strips that would hold. A lot of money had been spent on the project and as the planes got bigger, it was harder and harder to get a satisfactory surface that would hold. So this is the situation they found themselves in, in about 1960. And this is one of the reasons why they managed to get very good cooperation from the city of Reno and Washoe County. 'Cause that was

recognized, we had to get the water out from under there.

You might ask why the airport was placed in that particular area, but if you look around, there are no really good airport locations within forty or fifty miles of Reno. It's a mountainous area and there's no good flat lands and air currents make it rather hazardous in some areas. Now, the Stead Air Base is quite a big valley there, but as I understand it—I've been told by specialists—it is not an area to fly in. So we had to, if we wanted an airport, it had to be pretty close to that area.

When we mentioned the removal of the reefs, we mentioned that the Army Engineers did the clearing of the river. I think they spent somewhere about a million dollars. In clearing the so-called reefs, they changed the course of the river somewhat, they deepened it, they changed the grade of the bottom of the river, and they made a flow capacity of 6000 second feet without any flooding. Actually the figure is closer to 10,000 (about 10,000) before there was any flooding. They did only temporary work outside of the Truckee Meadows, itself. They did a little bit through Reno and some west of Reno. They did work from Vista reefs down to Wadsworth, where the Indian reservation ties in there—boundary of the Indian Reservation. And then we had such a request for pressure from the Indians and from people living downstream, that the Army Engineers went on ahead and did some clearing below that.

Well, the river really needed the clearing but unfortunately, there was no riprapping of any protection to the banks. And probably it left the river in as bad a shape or worse shape than it was before it was clear, actually. It should have been followed up with some riprapping as was done in the upper valleys. But there was no money, and nobody was

particularly pushing for it, and the Indian Service would not put up any money for that kind of work, and so a lot of the value of that work has been lost.

One of the things that the Army Engineers brought up afterwards was the construction of the dam in the mainstream of the Truckee River, in the neighborhood of Verdi. There was another possible site at Mogul, but it was more expensive than and less likely. And this was for the so-called "ultimate flood." That is, the greatest flood that could happen. And they only happen probably maybe once every 250 or 300 years. The Army Engineers developed plans and specifications; I presented it several times to the agencies and to the people. It was never accepted. I think that the cost on that would have been about 54 million [dollars] and most of that would have been for a dam at Verdi.

In the southwest part of Reno, the plats called for a rather large diversion in that channel along the foothills in the southwest of Reno, and then going in behind the Huffaker Hills, and then with a dam spillway and just above by Hidden Valley on Steamboat Creek, which would have flooded during storms—during a bad storm—would have flooded the area behind Huffaker Hills, and would have let the water gradually flow back into the Truckee River. The big advantage to that would have been flood control for the southwest Reno. The total plan, I think, called for about 65 million [dollars] and I think that that particular phase of it, the southwest Reno, was about 13 million [dollars]. At last we discussed it with the Army Engineers, the price would have been considerably more, but it caused such a demonstration against the project from the Verdi people and people in southwest Reno and others, that the project, I think, was set aside, at least temporarily. And I just have a feeling that this will never occur,

and yet I feel very confident—or very, very apprehensive, I should say—that we will have a big flood that we would have needed that at some time or other to prevent very serious damage, during that period.

The dams that were built at Boca, at Stampeded, and Prosser, and Lake Tahoe itself are not of the type, or of sufficient size, actually to alleviate the area downstream from those hazardous floods.

The turn of events, with the tremendous increase in population and the settling of the Tahoe Basin and the area in Martis Valley and Truckee is going to bring us some problems which may be much more serious than the flood control, and that's contamination of the river through sewage and pollution from industrial [and] human uses. This is probably going to be even more hazardous than our floods. They are working on it at the present time. How this will all turn out, we don't know. But it's unfortunate that in many river systems, such as the Truckee River, the upper areas, the mountainous areas, areas that produce waters are allowed to be settled. If they could have been left in government ownership, and used not for industry or for even habitation, merely as a place to recreate and to enjoy (which could have been) years ago; if we had been farsighted enough to do that, and prevented that development up there, we would've assured a much better river system. I think this holds true probably throughout the United States.

INDIANS IN AGRICULTURE

At the present time, the Paiute Indian tribe at Nixon has brought suit to recapture some of the waters of the Truckee River, enough of the waters of the Truckee River to maintain the levels of Pyramid Lake at least probably an area of probably a hundred and

ten thousand acres, which requires in excess of 400,000 acre feet of water. This whole thing presents a problem, probably a detriment to development; when I mean development, I mean occupation and settlement of the upper Truckee. I kind of suspicion that the suit that is being brought will probably not be settled for thirty or forty years. This is actually removal or withdrawal of the waters that were brought to be allocated to the Newlands Project. As many as, oh, fifteen, twenty, thirty years ago, I realized in my rather unconventional way, that someday the interests of the Indians would collide with the Newlands Project, and it would probably be settled in court. And this has now come to that conclusion.

This problem goes back; of course, it hinges somewhat on the amount of water that is available, or falls on the watershed of the Truckee. If we go back some eight or ten thousand years, when Lake Lahontan was in western Nevada, it occupied, I think, about 8,000 square miles. And there must have been a lot more precipitation in those days than there are now; had to be. And we've had this gradual drought that's come on us. The lowering of Pyramid Lake (what I'm trying to point out) is not entirely due to the removal of the water from the Truckee River. Precipitation on the Sierra Nevadas has had very great effect, probably great effect on the size of the lakes in western Nevada.

But during my career here and when I came here in '54, I started to work with the Indians on some of the development, or helped them to develop some of the lands, or bring the lands on the Indian reservations up to a little bit better production. There are a number of factors why I was not too successful. First of all, the Indians lands are in allotments, are given by the tribe in allotments. And most of those are small, under fifteen or twenty acres. To back that up

a little bit, there's not actually very much land on the lower Truckee; there's only probably about fifteen hundred acres, which isn't a great deal of land. They have the water. And when you divide that into very small allotments of fifteen or twenty acres, it doesn't really make for an economic unit. Then you have the fact that the land does actually not belong to the Indians. And that they were not too well financed. I think most of 'em had the skill and the ability to operate 'em, if they had desired. But they just didn't have the finances.

It's been a very difficult and rather discouraging work for any agent to do this. They used to have their own agricultural agents. I think it was about 1955 or '56, they turned this job over—the agricultural part of it—they turned it over to the University Extension Service. So while we had been working with them before, we intensified our work a little bit. But we ran into so many difficulties or situations in which there was practically no solution. First of all, as I mentioned the smallness of the operations, the improper financing. The complexity of the division of the land there, the jealousy that existed among the individuals, the water problems, the river problems call tend to make it very difficult to work. We did some work with livestock. Some of the agents that followed me—I think at the present time they have one agent that does nothing but work with Indians on two or three reservations. They've tried to solve the problem, but it's almost insoluble.

Then we speak of working with the Indians, you had some other problems there, and one of 'em was finances. And then you had the actual ownership of the land, so it was hard to propose something to an Indian land owner or occupier. And since he had no finances, you had to find a way to finance that. For example, land leveling or ditch

improvement or any of these things, you had to first of all, get the desire to do it and you had to work through the Indian Service, which agency had the engineers and they put into their budget, improvement—not for an individual, but for the area. And this is a very slow process of doing it.

You just couldn't do it like an individual other than an Indian that, if you suggested a physical improvement of the lands, you expected him to find the finances and to do the hiring of the contractor that was doing the changes. Here you didn't work that way. You went through the Indian Service, who provides the men that were skilled in surveying and then they provided the finances and they generally provided the equipment and the supervision of the job that had to be done. So it becomes quite a very discouraging aspect. In introducing new practices, again, you've got to overcome the inertia or the lack of an incentive there to get 'em to do it.

We did get 'em to introduce, well, seed, alfalfa, better seed varieties, wheat varieties. But this came in a little bit in a different manner. The merchants and seed houses that provided the seed and fertilizer and what-have-you, if they stock that particular seed, you see, then the Indian rancher had to buy that. So it was planted. You see, you had to get some finances for 'em to buy it so that he could plant it, and if it was available, then this became an established custom. But it was different than you would do it with the white ranchers, or white farmers.

Same way with equipment. They just didn't have the money to buy the equipment, so they used a lot of horse equipment or broken down or poor equipment. 'Course the acreage was small; this problem is all over the state, wherever they had Indian reservations. I know it's pretty much the same at Schurz, and I kind of imagine that it's at Yomba. They

have a better situation up at Osyhee, with bigger acreages and a little different type of agriculture.

To give an example of improvement of breeding livestock on the reservation, when you tried to bring in purebred bulls and better bulls, they had an association, livestock association which purchased the bulls. I think they received some help and guidance from the Indian Service. But in purchasing those bulls, they couldn't go out and purchase from a breeder a given standard; it had to be put out on bids. And they had to accept the lowest bid. So you can see what happens. Instead of getting the best quality, you got some of the poorer quality. Might have been purebred, but they were probably poor quality breeds. Poor quality of bull, but they were purebreds and they were the lowest price and it had to be accepted, you see.

Among the things that has been planned and probably now is where we started construction, is the fishway and stabilization of the channel into Pyramid Lake so it would allow the trout to come upstream to spawn. I noticed that the latest estimates are about \$5,700,000 for the cost of the project. It will probably be done by the U. S. Army Engineers. And looks like the congressional delegation is going to be able to get the money.

Now, I'm not critical of this, but I just wanted to point out that \$5,700,000 is an awful lot of money to spend on a project of this kind to conserve or replenish the fish, or to allow the fish to come upstream to spawn. It might be at a point where if we don't control pollution, it won't do very much good for the fish to come up to spawn, because the water will be in such a condition that they can't spawn. Then if we think of \$5,700,000 for the project, I think that I figured out that they could give each Indian that's a resident or on the rolls of the Pyramid Lake tribe about

\$11,000. And if we reflect that into the cost of each fish, just at a dollar a throw for the fish, for each fish, 5,700,000 fish is an awful lot of fish that'll have to be hatched out of the Truckee River! I think that probably they could have put 'em , doing it as they're doing it now, through fish hatcheries, and dump 'em into the lake and probably come out better than they are doing it now. Because we don't know how—it looked like it might restore the fishery and it but it *may not*, because the conditions on the upper Truckee now are far different than they were a hundred years ago or even fifty years ago, when the fish were spawning on the Truckee River.

I thought we would just add a little bit to the comment that I made a while ago about the cost—the actual cost—of constructing facilities which would assure the fisheries in the lower Truckee. If we add that, the actual amount of water that is used—water to maintain the level of Pyramid Lake which is roughly 400,000 acre feet, it brings up the question, why are we doing it? We're surely not doing it because of a financial benefit. Because if we put any value on the water that is evaporated from Pyramid Lake, even to the tune of six, even five dollars an acre foot, this mean \$2,000,000 a year that we're losing in water, purely to maintain Pyramid Lake. If we put more value on that, up to \$10 or \$20, and if we put a value of thirty or thirty-five which is water that is used for industrial and domestic use, the figures become astronomical and we just wouldn't have the Pyramid Lake. I'm not against having a Pyramid Lake or having beauty out there, but if we look at it in cold cash and what it costs the community, or costs somebody to maintain that, it begins to look a little questionable, at least to me.

We sometimes wonder why certain ethnic groups or different peoples get along a little bit different; some make success and

some are more prosperous and some are less prosperous. I lived among the Indians all my life and I like them and I feel very sorry for 'em in many ways. And the government has tried in many ways and they've spent a lot of money. And they have had not had too much success; I mean on the rural Indians.

Now, one of the differences that I've noted between we and the Indians for example, we did chores. We milked cows and we canned fruit and we did many of these things that didn't bring a lot of income, but they saved from buying food. We cured meat and all these things. Now in some cases, I know that the Indians could probably have had some of those things, could have done some of those things. They couldn't have milked probably as many cows, because they didn't have the land or the area or the cattle to do it. They may have not had the feed for chickens and for the eggs and all this. Or they may have not had the orchards, but somebody had to plant the orchards originally and the whites did, and the Indians, most of 'em, did not. The canning of the fruit and these things were probably the big differences that allowed some of the poorer white families to eventually compete and get a little capital so that they could make progress, either in larger holdings or educate their kids better or clothe them better or improve their living facilities, their home and living facilities. I don't know how you teach or cause a group of people that is separated or doesn't do those things, to actually get in and do these chores (so-called chores). When you're doing chores, you have to take a long, long view and a rather cheap view of it, because you say, "Well, I'll use it next winter." And how do you instill that into people? is what I'm trying to say. When I became a county agent, I thought about the things we did at home. And I tried to, working with Indians, I tried to kind of instill, or tried

to get the thought over, but I never was very successful.

I recall when I moved into Washoe County, we had an agricultural agent for the Indian Service; he happened to be Japanese. And he was a pretty good horticulturist and he was ambitious. He came to see me, talked. I went out to Nixon with him and he was able to get some fruit trees and berry bushes and went out there and tried to get them to plant 'em. As I say, he was a horticulturist. He was pretty good on pruning trees, and he got the tools, he managed to get the tools, and went out there and gave demonstrations. It just happened that he was here only one part of a year, and he went to work with some other outfit. About that time, they opened up a job in my office that he would have fit into and I tried to get him to stay, but he had already accepted the position with another agency [laughs]. So he left here.

I went out with him on several occasions and he was the only person that I really ran into that could kind of get under the Indians' skin. We went out there, for example, in the spring, early spring, and he had given two or three demonstrations on fruit trees. He left tools with them to cut and trim the trees.

And I went out there and he just walked up to the house and knocked on the door, and when the Indian appeared, he said, "I came down to see how you were getting along." He says, "Did you prune that tree yet?"

"No, no, I haven't had time."

"Well, why haven't you done it?"

And he was the first man that ever could actually set an Indian up and, I think, make that Indian kind of uncomfortable about not having done the things that he was instructed to do. And this is why I'd hoped that he would stick around, because he did it in a rather nice way, and yet he—you could just feel that he was reaching home. I don't know how

successful he would have been; they probably would have resented him and probably some of the whites would have resented him, but he kind of outlaid a program for 'em. And he said, "Now get this done, and next time we'll do something else." And he expected 'em to have it completed.

EXTENSION SERVICE SOCIETY IN WASHOE COUNTY

Now on the adult side of it, agriculture, of course, played a very much larger part in the community life years ago than it does now. Because it simply was larger and there was much more finances involved, much more money involved. So as the community grew, the importance of agriculture has shrunk to very, very small proportion. The business community has responded very well, I think, to youth groups because they recognize that this is one way of training youngsters. We organized, of course, livestock shows. We played a very important part in maintaining the first Washoe County Fair and now the State Fair.

The social activities of the, you might call it the Extension community (and this included both the agricultural and non-agricultural people), became very apparent. Well, for example, I have been invited to quite a number of weddings of the younger folks that had grown up, as most of 'em were club youngsters or friends. And I, when I attend, I suddenly find myself in this more or less of an Extension community, in which there's club leaders and homemakers, and mixed in them was the Extension workers both on the local level and from the University. There's a kind of a common bond there between actually University and this Extension community.

If we mention this Extension community, as we called it, it's tied in with the University.

I would classify those people as mostly conservative, above average in income, mostly—not mostly but probably—more Republicans than there are other parties. I don't think they would vote as a bloc, but they could possibly, conceivably under certain circumstances, reflect on county and state politics. There was never any attempt to utilize, or to make use of that as a tool for election. We were very careful to keep politics out of it. But reflecting on it and analyzing it, I think that the thinking there was more or less of a "bloc" thinking there. I know, to my knowledge, it was never brought up in any meetings or anything that I ever-. You know, I was very, very careful; that's one thing that I just did not mix politics with, work as such. Now, there was always—you know, [laughs] any good agent has to be a politician or has to use political methods to get over projects and programs, but not politics *per se*.

[How about the approach for political candidates to this group?] We didn't use that. There was occasionally someone from the group that had gone into politics and had become successful. Now, he or she would come back and mix with the group. And he probably did use it in this way, did use it as a basis for political strength, but not as a definite maneuver to enter politics. Naturally, if you know a person, if they know each other, they would probably help each other, but not as a concerted effort to do this.

When I came to Washoe County, we were housed in the State Building on the third floor in one big room. Previous to that time, they'd move from office to office and it was very unsatisfactory. It took me four years to get organized and get something going. Finally, we got in pretty good with the county commissioners and they offered us the fairgrounds and they fixed up the old building that was out there, the old Dempsey

building, so we accepted one half of it. We had a workroom down on the county grounds by the Washoe Medical Center. And so they transferred that to property and they gave us a credit of, I think, about \$11,000 that they could work and fix up the Dempsey building for us. We designed, helped design that. So we moved down there.

Now, I felt that we owed the county commissioners and the workmen over there who worked on it, a very deep debt. And so I got the home agent to prepare a luncheon and we invited the county commissioners and part of the courthouse crew to come down and have lunch with us. And we didn't strictly make it politics, but we got up and we invited them to criticize us or give us hints and guidelines. And this has proved very—they're still continuing it, I think, and this has proved a very valuable tool to keep in contact with the county commissioners. It makes no difference what party they belong to; we were impartial in that. And we invited the Dean and whoever from the University down to discuss and meet with 'em . And this was very good.

We [laughs] did that with the county workers also that were in the crew out there that helped us, the janitors and the grounds people. We just set a date and prepared the food, and we took the money out of our own pockets to furnish the food. We used the facilities that were there, but we furnished the food. This was strictly on our own, out of our own pockets to furnish the food. We used the condiments that were there, but the dishes and so on and so forth were prepared by the ladies. And I used the clerical force for maids and hashers and so on and so forth; of course, they sat down and had dinner, but they served the people. And this made a very good feeling, I think. And they're still continuing it.

We tried to introduce it; I told other agents and I tried to get the other agents to

use it in their own counties. It's a very effective tool that can be used. This helped out on our budget. We turned in our budget and I never attended a county commissioners meeting to ask for our budget. We just turned it in, and this was it. We were always under what we could have demanded, but we always figured out what we needed and we came—fortunately.

In the smaller counties, the budget is a real factor, because you have the low assessment values and they have so much need for money that you don't get very many mills on their budget to take care of your needs. So therefore, the state and the federal funds have to be poured into those counties. You get into big counties like Clark and Washoe, assessed evaluation has grown so rapidly and it's large, so the very small rate provides practically all the funds necessary to carry the county office personnel. You do get the equipment and this kind of things from the state from the federal or the state, but much of your—you're running on your own funds, county funds.

And this is one of the things that, the agent has to be a pretty fair politician, he doesn't want to get in bad with the county dads; not only in bad, but you've got to work in cooperation with 'em . They have a problem and often times, their problem is a common problem with that you're having. As an example, when the county commissioners were desperately trying to improve the fairgrounds, tear down the old horse barns and get buildings out there, we worked very closely with them and we worked with our own groups. The unfortunate thing is, many of our own groups were groups that used us. Sometimes some of 'em weren't our groups but we had varied interests out there and they were very—just couldn't change 'em .

You talk about rural people being a little obstinate and not understanding, I found that

it's just as difficult with urban people when they make up their minds. As an example, the Little League people were very persistent on occupying their space there, and they wouldn't give up the ground—the little fields that were in the wrong place. They had to be improved until they got stationed elsewhere. We had Horsemen people were very oh, very obstinate. They had the old barns out there. There were people that were using those old barns there to keep horses out there. They were actually using them as a riding stable. And to try to get the concept changed that this is not a boarding school for horses, it's a grounds that can be developed for events, horse shows, or rodeos, or any other event that has to be—. But it's used by *all* the people, not by a select few. And I found that they're just as obstinate in the city as they are in the country!

I've never had trouble with any of the people with which I worked, wherever it might have been either rural or urban. Oh, there was difficulty sometimes, because of difference in points of view and what-have-you. I found that Washoe County was just as easy, or easier to work in than many other counties. I found that generally finances were a little bit better and easier to raise than they were in the smaller counties. And if you got the interest of people, you got a lot of cooperation. Cooperation was excellent, particularly in youth work. But it was in other groups, also. You had to show leadership and make some progress in the interest that they were in, but it wasn't hard to work at all. I found no trouble with ethnic groups or anything else. They tied in very good.

I think we covered this, but we could only reach really the middle income. We had troubles with the poor, in getting their interest. We were willing to work with 'em , getting their interest. And the really monied people generally provided their own outlets

for their energies, or their youngsters'. And we never quite reached the black people. There wasn't very many of 'em , there isn't very many of 'em , there wasn't—there was less of 'em when I was here, when I was working. But we never could break into that community. And we never could really break into the Indian community. But other ethnic groups, we had no problems. They stratified themselves, I think pretty much on income or interests.

GRADUATE STUDIES INTERIM

I graduated in 1932 from the University and, of course stayed home on the ranch for two years. And then, in 1934, I went to work. I always had a feeling, thought I had a feeling that I wanted to eventually get a Master's degree and do some specific studies on grasses. I really was interested in the Nevada bluegrass, actually because I'd seen it growing, and it kind of intrigued me in its growth habits and the tenacity with which it has held on in many of the areas of the state. And it's a high quality of grass, particularly adapted for our area. I wanted to do some study on it, but I never got around to it for two reasons; I was too busy being county agent and too busy having a little fun. And there was no scholarships, and so on and so forth available and I wasn't too busy saving any money. So I never even got around to it.

The Extension personnel, or higher-ups—the Director and all of 'em —kept insisting that we should have more formal training. This is when they prized degrees to a high level and so in 1955, a situation presented itself. I could take, I think, six weeks off and go to school and be paid at the same time. I think they gave a small scholarship and it had to be in 4-H training. So we talked it over with the family and we decided we would take that summer and go to Denver, go to Fort

Collins. And the youngsters were at the right age so that they were still willing to go with us; [laughs] you know, we hadn't lost 'em yet.

So we did that. We loaded up clothing and everything on the car and tied it on top and we drove to Fort Collins. I took, I think it was four credits there, four or six credits—whatever it was that was necessary to take. And I enjoyed that very much. I had gone to a lot of training sessions and short courses at the University here, but this was the first formal training I'd had since school. I enjoyed that very much. We took a course, I think, in 4-H and one of 'em in sociology, and oh, I don't know. I think there's four courses that we took.

I enjoyed the 4-H Club work, it was taught by Mildren, who was some kind of coordinator for 4-H Club, nationally. He taught that course by having presentations from the students. They were all trained, they were all professional people, but they would give their experience, tell how they had done certain things. And I listened for quite some little time and I tried to place myself from what position I was in regard to their ability, their skill and ability. And some of 'em were pretty well skilled and some weren't, but it was rather fragmented, I thought.

So when it came my turn, I really poured the heat on him. I says, "Really, Mr. Mildren," I says, "I came here to hear you, not the rest of 'em. I want the experiences and I want you to actually give us the series of lectures." And this is what he finally did. Because I was getting it, you see, from different areas, but I was getting it from people of my own level, and I wanted either above or below me, somewheres in there. And I figured that since he was (I don't know exactly what his title was, but he was in Washington) he was in charge of club work and I wanted—. He finally gave us about three or four lectures, that I thought he enjoyed.

I enjoyed the sociology course. It was taught by—I can't remember, Doctor-something-or-other; he's from Utah. I don't know if it was Brigham Young or from Utah State, I'm not sure. I think it was Utah State. He's a good Mormon, and he has a pretty good command of the subject. And he recommended a book to be read. In that course, I learned a lot about leaders, selection of leaders, and how the leader in any particular community—I'm speaking of a community that is a group of people that worked together; either a social group or a physical group that you have.

I learned quite a bit from him. And I smiled kind of to myself, because if I'd have had that course before, I think it would have been much more helpful to me. Because I learned how to pick my leaders and how to handle 'em on my own, you see through trial and error. I'd go through these situations that they gave on how a leader influenced the group and how he acted. Some of 'em would find a silent leader and some of 'em, the vocal leader, and some of 'em, the hidden, or the one that was up in front, or how the leader became a leader. I found that, through trial and error, I'd been using the right methods, apparently.

Well, for example, in a rural community, the man that sits back and has money to lend to farmers and ranchers and he puts a certain pressure on all those people that he's lent money to. They can't get away from him very easily. And this is one of the things that you have to find out: who's got the money bags, for example, and who's made these loans and how does he control 'em? In other words, the man that can dispense favors, if you want to put it in a very crude way.

And as strange as it may seem, we're still doing that. This is the way society runs. How do we get the person to do something unless

we can actually—. If we're in dictatorship, we can put the pressure on and say now, "Do it this way or there's punishment." The other way of doing it, we dispense favors. It don't have to be finances, or it doesn't have to be—there's a lot of ways the favors can be dispersed.

That same man might be a vocal leader or he might be a very silent leader. And you have to dig him out of the community. If you want a project to succeed, you've got to get to him. Sometimes you don't go to him direct; you might go through one of his subordinates. But you have to get to that leader some way to convince him that the thing that you've tried to put over is safe and sound. And you learn that you've got to be pretty observant. You wonder sometimes why you lost the battle, but if you go back and reconstruct the battle [laughs] why, you didn't have all your men placed in the right position.

I'd like to give you an example of the hidden leader. When I was in Yerington, we had a number of fires in the local area and there was no fire fighting equipment. It just happened that Bruce Barnum and I had the power sprayer there, 300-gallon power sprayer, and when a fire'd break out rurally, they'd call Bruce Barnum and he'd go out with the sprayer and do what he could to control the fire. Well, there was a series, two or three of 'em, and the buildings burnt down.

Some of 'em came to me and says, "Well, we should get a fire district organized."

So I said, "Well, fine."

So I went down to the district attorney and we dug up the laws and we wrote a petition and I passed it out to some of the leaders, you know, and said, "Well, we'll petition the county commissioners to create a fire district."

Lo and behold, there was very few signers! So this kind of stumped me a little bit. About a year later, there was a fire at creamery there,

Yerington Creamery, and it burnt down the building and a few things like this. And it just happened that Joe Saroni and Glen Cremetti were actually running the creamery, you see. And Glen Cremetti got very interested in fires, organizing the fire district. Now, Joe Saroni had loaned money to quite a few people, and he was influential; he was one of those silent leaders, you see, and apparently to create a fire district you had to also put a tax on it, see. And both of 'em owned a lot of property, you see, and they didn't want extra property tax, you see. This was very simple to figure out. So, naturally the word went out, "Don't sign the petition."

Well, when the creamery burnt down, why, they got interested in it. So they didn't even bother with me. They went down to the district attorney and he—practically the same petition, you know, just change the dates and a few things. The petition was circulated and the district was created without my help at all, you see [laughs]. And I tried about one year before.

Now, the comical thing about that was, I came up shortly after it had failed; and I came to a meeting up here, the county agents meeting, and I mentioned the fact that we tried to organize a fire district and had failed. And I made the remark, "We've had quite a number of fires, but we haven't had the right fire yet"

[Laughs] And about a year later they said, "Well, did you set that fire so that you had the right fire?"

And I said, "Now, look I'm not an arsonist [laughs]:"

I don't know if I can add very much to my graduate studies. I enjoyed the trip and I enjoyed the studies, and well, I had a good outing with my family. We had one little problem there. It's hard to get any housing and we stayed in an auto court. And Kent,

my youngest son, was playing outside and he broke his collar bone. He was playing with the other kids. We had a little problem there, but it wasn't serious. And they enjoyed, I think, the trip. That was very enjoyable. We went through Yellowstone and we came back through Yellowstone. As a traveling companion, we had Kirk Day, and his wife and family went along. We went through and we saw Yellowstone and Grand Teton Park. Then went through Casper and through there and then we came down through Idaho. We stopped in Elko and Kirk went on his way on to Winnemucca. But we enjoyed it.

4-H CLUB WORK

[When I came to Washoe County], Four-H, for example was organized—I think that it was organized about the same as I found it in Lyon County when I came there in '43. And I'm quite sure that I had improved the organization. When I came here, they were still organized in the little community clubs that included boys, girls. They didn't specialize. When I came here, after about a year, I began to see that we had to kind of specialize. If you're going to go feed livestock, we organize a livestock leader. If you're going to do some sewing, why we organize a sewing group; or a cooking group, we organize a cooking group and we get different types of leaders, have different kinds of skills. And we had to tie them together some way, tie them together so that there'd be cohesion in the whole program. And this is where we developed the project, clubs. And then we developed the community club, which was generally around a school, or school district, or school area. And then we had to bring that into a county organization, an over-all county organization. And this took a period of four or five years.

By this time, I thought I was at least pretty well on organization, but I wanted it organized in good shape. So I got an attorney, Mr. Reed, Ed Reed, Jr. to write up the constitution and by-laws. We got those all adopted. And we worked with the leaders to district, to define where these communities were and to work this all out until we got a pretty good—I thought it was, and I think is still operating, with changes as necessary; I think that it was a very good organization.

We could get response from the whole community with just going right down through our leaders. And we organized the 4-H Club Council which actually gave 'em a function and a real job to do. I was helped by that to some degree by Marie Morgan, who was the home agent. And before Marie Morgan came out, Mrs. Hayes was there. She was a very good agent and a very fine person. But she was used to the old style and she retired. So when I brought in Marie Morgan, she had worked in New Jersey and had a little bit better concept of what I was trying to do, I think. We gave our leaders much more authority, actually, and got them to cooperate to run the organization. I found that in quite a few of the other organizations.

We probably can finish up on a little bit of the 4-H Club program. In 1954 when I came here, as I say, that program was well established, but it had a little different trend and or different guidelines than I had been used to. And I've spoken before of the organization and how we organized it so that it would be more effective, we could use our time more effectively and use our leaders to a greater degree. Give them more of a sense of doing, that they would be more dedicated. We also had to go in and do a lot of training, which at that time was being pushed from the office, both federally and state, to get

better work. So we had to organize training programs for our leaders. We did that.

One of the nicest things that I think we developed was a—and this was not my doing; it was John Pursel. [He] had come up through the FFA program and he had been pretty good on parliamentary procedure, and he undertook to really push that. And I kind of smiled, you know, but he put on a program, not only with the leaders, but with the youngsters. And when he got through with that, he had the slickest parliamentians in the kids, you know, that could actually run a meeting and they did it the right way. I've often thought about that. That was his pet and his specialty.

And I kind of, well, I didn't press it very much myself; I didn't quite see the value of it, but after it was really going, and walk into a meeting and see a meeting conducted by a twelve- or a fourteen-year-old youngster in a good orderly manner—. He did it in a good orderly manner, because all the other kids were sitting around there and if he didn't do it right they called his attention to it immediately. They called him on points. And this was rather a pleasant surprise, because many times you go into meetings and they're run by people that have had no training. And you can't quite understand what is happening or what they're voting on and the minutes come out poor and you don't actually know what happened in that meeting. But that was one of Jack Pursel specialties. And he had one of the best trained set of youngsters that I've seen anywheres. You could match 'em with anyone in the United States. They just were sharp.

We, of course, trained. We used the specialists—largely the University specialists—on some of our training programs. But we had to set it up, and there wasn't enough of 'em, and then they didn't quite understand the

situation, so we had to translate a lot of that information from the college level, or from the upper level, to down where we could use it.

To me, it was a very successful 4-H program. We had a lot of winners, and Chicago winners, and state winners. It took a little while, three or four years, to bring your own youngsters into competition so they could out-compete the others. And this was one of those so-called challenges where you like to beat your neighbor a little bit; you know, you're actually competing.

Jack [Pursel] did another thing here. He got very clever and sharp at filling out record books, which I never was very good at; I never was good at 'em, but he got very good at it. About fifty percent of the 4-H Club winner, whether it was county winner or state winner, depends on the records and how he has assembled those records into a record book, so that the judges can make a judgment on 'em, pass judgment on 'em. And if they're well prepared, they naturally will get the higher grade. Sometimes I felt that probably the best youngster didn't win, but he had the best record. And they don't judge the youngster, they judge the book. Those are some of the things you just have to learn.

You asked me about doing club work, and how to get winners. In other words, how to get a program that will produce a given product of youngster, or a given product of projects. When I went to work, they depended a lot on the agent for instructions. Now, the agent being kind of a teacher, you can just imagine that if he spent all of his time just in teaching—. You have teachers that have twenty-five or thirty youngsters in schools, and they have 'em in a given situation, and they teach 'em a lot of things, but they have 'em under control and they have background information and all the information. When you're teaching in Club work, you see, you

have an entirely different situation. I call it an open door situation; the kids can walk out on you anytime they want. And you can't be at every meeting. When you have 250 or 300 or 500 youngsters, you can't give each one individual instruction. First of all, you don't have the time. So you must train and employ a lot of the skills that are represented in your leaders, and in your textbooks, and in other material that is available to you. So then the program has got to be developed so that you can bring all that information to the leader and to your leaders, and they can present it to the youngster, and to the parents. Because this is a family affair, you've got to include the parents. You've got to educate the parents as well as the youngster.

So you had two, three things that you had to break down in the parent. First of all, that the county agent couldn't do all those things, he was not God and he was not that good. And you had to do that pretty easily because if you broke yourself down, why, then you wouldn't command their respect. Then you had to get them imbued with the idea that *they* have a lot of skill. And the same way with the leader, that *they themselves* possess a lot of skill and they can get a lot of skill and can get a lot of information out of books and other reference material. And that *they* must assume assimilate the information and pass it on to the youngsters. So you've got the whole community, practically, to educate there.

Again, what I say is, the agent must keep a rather low profile to be able to do this. You're pushing other people into a program, if *you're* going to do it, *they* don't have to do it. They may be afraid to do it, they may be willing to do it, but they're afraid; you've got to instill confidence into them. When you've gotten that concept over, along with the organization to put that input in, into the leaders, into the parents, and into the youngsters, *then* you

have a 4-H program. Then, what I said a while ago, that winning the contest was no problem. You've got to do your homework, and your research and your work long before. Each agent probably works a little bit different. It takes a few years, two or three years, to actually be able to, so that the agent can make himself understood, so that the people will understand and respect him or her and will be willing to do these things. Because when the parents and the leaders are putting a lot of time and money and effort into that program, they have to be important. They've got to be important, they are important. You couldn't do it otherwise. They're God's chosen people, when it comes right down to it.

Just discussing the difficulties of establishing a 4-H community, a 4-H atmosphere. Now, when I mention 4-H, I mean an atmosphere in which any program can compete with not only other programs, but other activities going on in the community. It's got to be attractive enough to focus the attention of the parents, the youngsters and the leaders on this, on the program that you're trying to push. In other words, it's got to be pretty good. The program must be good, it must be sound. But you must also create enough publicity, enough desire in those youngsters and people that are concerned with 'em, so that they will give up some of their time to devote to this and undertake this particular program, rather than some other program. At the same time, you've got to be very careful that you don't distract those youngsters too much from their school. I always tried to be very careful, because I figured that the formal teaching in schools was the most important function, particular important activity, that the youngster could engage in. Because that was education that they needed, and it was first. But then what they did with extra time that they had, they

could devote that to sports, or they could devote that to mischief, or they could devote that to recreation, or some other thing. And you have to develop a program that is strong enough to draw them to your program rather than let them go somewhere else. And I think that 4-H has been able to do that where the agent and the people are concerned can bring it to the proper attention of the adults that are involved—parents and leaders.

There's quite a little difference between carrying on a 4-H program (or any program) in a rural area in which you do not have the distractions or the recreation or the interference and the competition for the youngsters' time as you do in an urban area. You've got to gear a program a little bit different in an urban area than you do in a rural area. Most of the youngsters in Washoe County, I think right now, come from the semi-urban or semi-rural area that you have surrounding the town, although the certain programs fit right into the city. I think with city people, for example, most of the home economics projects—sewing, clothing or cooking or these things—fit in very nicely. These can be done by the girls at home. Then you've got to vary your programs. In a strictly rural area, you might have just a garden project, in which you raise a commercial garden and this kind of thing. When you come into town, you've got the change that, you've got to go into yards, you've got to go into a smaller garden if you're going to raise vegetables, but you can go into beautification of the yard through plantings of the shrubs and flowers. And you've got to expand that.

Now, in many cases, you have an opportunity in the urban areas that you don't have in the rural areas. We took some advantage of that. I think I probably men- previously where we tried to, of the youngsters had garden projects, we took 'em

through produce houses, showed how those projects that they raised are produced and the commercial production is done, and how it's distributed to the general public.

The livestock people, we took them through the slaughter houses and then down to the meat markets. This illustrated, well, here they raised a calf and what happens to that animal as it comes into market, goes to a slaughter house, then it gets distributed out to the public, so that the public can buy it. And this is career training, I think they call it, but it's actually making 'em aware that you don't raise a calf and then eat him raw. He's got to go through a certain process [laughs] to get the steak off him, why, he's got to go through a certain process.

We'll just mention one phase of 4-H Club work which, in a way it's kind of glamorous and it's grown, steadily grown. And that is the livestock show. The original agent that really pushed the livestock feeding was Elwood Boerlin. He wasn't an agent too many years, but he was interested particularly in cattle. And he had the youngsters feed their cattle here and he would take 'em to the Cow Palace (or San Francisco yards in those days; stock yards), where they had livestock shows; FFA and 4-H livestock shows. So he did that for a couple of years, and then he conceived the idea (this must have been along about 1940, I think it was) of a state livestock show. So he set the whole thing up. They set the whole thing up in western Nevada here and set it up for the state, but the only counties that really could participate were in western Nevada.

I didn't get in on that first two or three years. I think the first two years I didn't. In 1943, I did come in when I moved to Lyon County. In '44, I had youngsters showing in the livestock show. And we showed at the Washoe County fairgrounds. We had no yards, we used the racetrack there, and made

pens as best we could and finally about 19-, oh, '44, about '44, '45, Boerlin was successful in getting a little livestock barn and corrals built down there which were used for about twenty years, I guess, they were used for that. And finally they were torn down and removed the livestock show.

We held it in the Coliseum one year, and I managed that. And that was quite a chore to fit about 300 to 350 livestock in the Coliseum. And you're only really welcome there one year, because we housed part of the livestock—we housed the hogs on the outside, but we housed the lambs and the beef inside. And the smell that comes off from animals got into the ventilation of the building, you see, ventilation pipes in the building air control and for heat control; that is, in both the heat and the refrigeration. And I guess they were quite some time in getting that smell out of the vents. So we were not welcome back there and we had to go back to the fairgrounds.

In the meantime, we had carried on quite a campaign to get the fairgrounds redone and the horse barns out and the old race track out. They were old, they were decrepit, and really they weren't using them for race horses very much any more, except during the state fair. But the horsemen got such a hold out there that there were people that were boarding horses out there, actually, and it was very cheap rental—five dollars a month for stall and facilities. That didn't even care for the upkeep, for the hauling the manure or straw, or any kind of protection out there.

And it was very hard. I worked at it for four or five years to try to get everything moved and get new buildings and new setup there. We had a fire, wiped out the old grandstand, racehorse grandstand, and it wiped out my office, and we had to move for one year. But this helped move it along a little bit. And unfortunately, some years before that they

had allowed the armory [National Guard] to come in and set down a big building right practically in the middle of the fairgrounds, which is—there's no objection to the armory if they'd have set it off to one side. It really was in the wrong place, as far as other activities are there. But when they finally got going, they built the livestock arena and then we worked on trying to get the barns moved or torn down and putting up a livestock pavilion.

The horsemen fought amongst themselves, and with other interests; they wanted a bigger barn, and what-have-you. I got the history on the fairgrounds, all that had gone into it, who had put into it and how it had been developed. The war got so bad that I just backed out for a year or two.

In the meantime, I retired. And when some of the opposition finally backed off a little bit, Jack Pursel, who then became agent after I left, was able to pick that up. And actually, they have very fine facilities out there, livestock barn and showroom and corrals and holding pens; very, very fine facilities there. And it's in constant use.

For a while, we thought that only the livestock group would be using it. The papers carried on about the bull corrals and all this kind of thing. But it's used now for not only livestock events, but it's used for wrestling, auto or bike riding, and I think it's been used for shows of various kinds. And it's a very good facility, can be adapted for very wide use.

This was a mean, nasty campaign to get that done. The county commissioners were willing to cooperate. They had the money and we could have got it done two or three years before, if we could have got cooperation among the users. But it just was practically impossible. What one wanted was not suitable for the other one, and all of 'em wanted it rent free. This is not possible, either. Maintenance is a factor. But the biggest objection came

from the horsemen, who thought of it as a rental, or as a place of holding or keeping horses. It's a place for events, rather than horses. Whether they're livestock or horses events or other events, it's a place where there's a seating capacity, there's parking, and there's other facilities there that can be adapted for pretty near anything that they wanted to.

I think we mentioned before that we started out very small; the first livestock shows were very small. They only had a dozen or fifteen beef; oh, couple, three dozen sheep, and two or three dozen hogs. And this has grown and grown until I understand this year that there will be close to 500 head, there'll be probably 450 head of livestock.

In the early days, they allowed the youngster to go into all three classes; beef, pork, and lambs, or he could have three animals in each class. We finally cut it to two animals, and then we cut it to one animal, and then we cut it down to only one class. The thing keeps growing and if there's over 400, or if there's 450 head of livestock, which will happen next Sunday, which is May 6 [1973], we're going to have the livestock sale, it's going to take a lot of time to sell those, sell 'em individually. They're going to take long hours to get that through.

Incidentally, I'm clerking, helping to clerk for that again. I've done it for about twenty years. And it's kind of unfortunate that I could neither read nor write nor spell [laughs], but here I am clerking, making up the official list for [animals] bought, and at what price. And I'm very deficient in all the assets that it takes to do that. But I've been doing it for twenty years, so I guess I'll be down there again [laughs].

STATEWIDE ACTIVITIES IN AGRICULTURE

DECLINE OF THE LIVESTOCK INDUSTRY

I thought probably we'd just say a little bit about the livestock industry, as it pertained to myself in particular. And this is in the southeastern and southern part of the state. We'll probably cover the rest of the state later on, from a little different angle. The cattlemen in the southern part of the state were not closely associated with the Cattlemen's Association—it wasn't very strong then. They generally were Farm Bureau members, so we didn't have very much contact with the Cattlemen, outside of the particular area, until we ran into the Taylor Grazing Act. There were no—I would say pretty near no—local sheep in Lincoln and Clark counties. They were brought in, most of 'em came from Utah and from White Pine and Elko County.

They used the winter ranges in Lincoln County, which were largely high plateaus, oh, probably five thousand, fifty-two hundred and were covered with a lot of white sage—a beautiful situation for winter range—and the snows were generally not too deep. It provided

moisture and good feed. There were probably twenty-five or thirty thousand head of sheep coming in from Utah that used the Cedar Mountain area for summer. And then they trailed over to Lincoln County.

From White Pine, we had quite a number of 'em driven down south; they just shifted a little bit further. Then we had some that even came in from Elko County. Some of those sheep were traveling probably two hundred, two hundred and fifty miles from their winter to their summer ranges. It was one of the reasons why the Taylor Grazing Act was brought into effect, because they were kind of wandering. Some of 'em owned springs, just a few springs, and they took over on the ranges, and they acted pretty rough on the local cattlemen. Since then, of course, the situation has changed greatly. The numbers of sheep have been reduced dramatically. I know that in Lincoln County there was probably forty or fifty thousand head of sheep came into there in winter. I doubt if there's over eight or ten thousand—or probably none—now; it's just reduced that much. They used

some of that bombing range that's now used in Clark County. They even got some that far. They were rough on the local livestock people that were particularly situated on the trails. You see, they'd trail back and forth and they'd eat out all the feed. They'd travel from three to five miles a day and move very slowly across—they were all driven; it wasn't like it is now that they're trucked— but they just used the roads and they drove along the roads and camped and they ate up all of the feed. There was no summer range in that area for sheep, so the summer range had to be out of that area and the winter range was, of course— there had to be a winter range. It was one way of really harvesting that winter feed, probably most efficient.

I think probably the thing that killed the sheep industry was, of course, lower prices on wool and mutton and lamb, but also the great scarcity of herders and men that could handle sheep. They just aren't hardly to be found.

There was a distinct difference from the herding of sheep in southern Nevada and northern Nevada and in that area down there in Lincoln County. Coming out of Utah and southern White Pine, they used the sheep wagon, generally drawn by a team of horses. And those that had two bands of sheep, they used one camp tender on one wagon with a team, and then they used herders, you see, going out of the same camp. They herded on horseback, they all herded, they all had horses. In northern Nevada, it was generally the burro and the lonesome herder with the camp tender probably tending two or three camps, but by horseback, or by truck, or some other way than the sheep wagon. And this was a very distinct difference.

And there was also a difference in the people that ran the sheep. In southeastern Nevada, they were mostly Utahns or Mormons that had ranch holdings in southern Utah.

And in the north, it was dominated, of course, by the Basques, mostly. There were other nationalities there, and other people than ran sheep, but there were a lot of Basques in northern Nevada, where there wasn't any in southern Nevada. They were generally Mormons from Utah.

When I went to work in 1934, we had the Depression. Many of the really big outfits had been wiped out by the Depression. In that particular part of the area, it was the Adams-McGill Company that had been wiped out. This left a vacuum in that whole area. They had, of course, mostly cattle, but they also had sheep, horses, and their empire was mostly in White Pine, Elko, and Lincoln County, Nye County. When they went under, this left all this range up for grabs in a way, and many of their springs that they claimed were filed on by local people and by others that came in. And that vacuum was filled, as I say, by sheep that came in from the outside. When I was in Pioche, I made a little study of that. I found that the first sheep that came in there, I think it was about 1917 or '18. There was not many of 'em . They probably reached their peak about 1924, '25, '26, in there. The drought and what-have-you dropped off some, but they kept on pretty strong until in the '40's.

[I note Clel Georgetta's book *Golden Fleece in Nevada*, and his emphasis on the fact that it was government that drove the sheep out.] He was partly right. He's done a good job of writing the book and I think he probably knows a lot more about it than I do because he was in it. But looking at it from a little different angle, his main complaint with the wiping out of the big outfits, particularly sheep outfits, was the government—Taylor Grazing—came out with a cut and cut and cut on the numbers. But the way I look at it, it wasn't altogether this. There were several other factors.

I think the first one was probably a financial factor. These big outfits had built up through rather good years, and during the war and shortly thereafter, they built up great numbers. Then we had a slight depression in 1921 and '22 which hurt a lot of 'em . And then when we had the big one in 1932, it took out their financial structure, was very badly damaged. They were owned by the banks, and the banks demanded their money on sheep that had been worth twenty and twenty-five dollars a head, and suddenly became worth two and three dollars a head. And wool, from fifty or sixty or seventy or seventy-five cents, dropped down to where you couldn't sell it; it was probably twenty or twenty-five cents. And this wiped a lot of 'em out.

The other factor was the lack of trained and good help, herders. The foreign migration then corrected partly when they put in the act that allowed the Basque people to come in here and herd, but that didn't solve it entirely. And the other thing that I looked at, that I think played a part in there was, we were actually going from the horse and buggy, from the horse-operated outfit more or less self-contained, to the mechanical; the truck and the hauling of livestock, and just the mere fact that the trails and roads that had been used to drive suddenly became highways. You can't drive down those, and the cost of hauling and moving those sheep and livestock had a very definite effect on the livestock industry, that particular part of the livestock industry—the sheep industry.

Look at the cattle industry—this applies, I think, to practically all of Nevada. The same thing happened, I think. There again, the economic collapse of 1932 was very serious and probably the lack of market and prices actually wiped out a lot of the livestock men even more than the drought and the government regulations. When cattle dropped

down to—I don't know, must have been about ten or fifteen cents a pound down to less than five cents a pound for steers. This just took the heart right out of the livestock men. They just couldn't keep going. And they were financed by local banks, and they got to calling the loans in, and they just closed 'em out.

I think there was a loss in the bank, probably a shortsighted outlook by the banks, themselves. Because here was capable men, very capable operators, suddenly forced, because they had gotten into this higher price bracket of cattle, and all of a sudden, the bottom drops out. Those men have not lost the capacity to operate those units; they just lost the financial backing to operate 'em . I don't know what the problem was with the banks; I guess they just had to have money. But if the banks had been able to carry 'em for any length of time, they would have probably, a lot of 'em would have come out of it. They wouldn't have had to go down, go down, go down.

OBSERVATIONS ON THE TAYLOR GRAZING ACT

Congress passed a number of reform bills, I think it was 1933, they pertained to many things. One of 'em , the one we're speaking about now is, pertained to the publicly-owned lands throughout the United States. This was particularly effective in Nevada, since the federal government owns eighty-six or eighty-seven percent of the lands in Nevada. So these lands were used by the public. I think they came under the General Land Office at that time. Administration of 'em passed over to, at that time, what was called the Taylor Grazing Service (it's since changed to the Bureau of Land Management) . Something previous to that time, the livestock grazer on the state of Nevada was pretty much free to roam, graze

wherever there was feed and water for his livestock. It generally developed in to the man that could hold it—fight off everybody else—got the grazing rights. Although it was a state law, according to state law, if you appropriated a spring you were supposed to have grazing rights [within a] three-mile radius of the spring. This was somewhat enforced, I think. Probably it was recognized by the state, and I think there was some lawsuits on it. But it was really imposed, or really administered by the livestock men themselves. This caused quite a few wars and what-have-you on it. This is the way it was done.

However, there was much of the state that was not close to the three-mile limit. And in [those] areas and during the time of the year, particularly in winter, fall, and spring, when there was water and snow available, there were many areas more than three miles from the spring so that grazing could be done by cattle or sheep, particularly in sheep, so we had a great increase in sheep production. Which was not bad; it was good, because most of 'em had a basis for being there; they purchased ranches, so on and so forth, and operated. But we also had some so-called tramp sheep men that came in from a long ways. They came in from Utah and Idaho, particularly Utah. Some of 'em drifted as far as three hundred miles during a winter. They drifted in and drifted out and they said they were going to their winter ranges. They may have owned only a small spring or a small ranch, and they disturbed all of the livestock operations between what actually was their summer grounds and their winter ground.

These lands belonged, actually, to the federal government. so something had to probably be done to get some control, stabilizing the livestock industry. So they set up the Taylor Grazing Service, which designated that first of all, you had to be

operating on the range. Second, you had to have commensurate property—and they set up rules for what consists of commensurate property and how it should be applied. The number of livestock was determined by the amount of commensurate property which was pasture, land that produced hay, and so on and so forth.

Well, that whole operation had to be put into effect. The Taylor Grazing at that time had a small budget and not very many men, and so they called upon the Extension Service to help set up the grazing districts, since we were the educational branch of the state government, the University. So working with the Bureau of Land Management men, we set up meetings and hearings and let them explain their programs, helped 'em pass petitions, help 'em fill out applications, all these things. In this, the Farm Bureau played a part, because they used the Farm Bureau directors and the Farm Bureau membership to do this educational work.

I can remember taking a carload of livestock men to Denver, a couple or three times to Salt Lake, Elko, Las Vegas, Reno, where the program was explained by officials of the Grazing Service. Most of these [meetings], the principal speaker was [Farrington L.] Farry Carpenter, who was a dynamic speaker, an attorney, and a dedicated conservationist and livestock man. I think that in the course of his setting up these districts, he probably met every livestock man in the state of Nevada and probably in the western United States. And he had the faculty of remembering people—a politician's ability to recall exactly who they were, what their operations were. He was a friend of the livestock men. And I think that he did a good job, actually, in the process. He sold the program.

Then we went to work with the local groups, tryin' to get them organized. And

as I said, they had a very small force. We helped 'em fill out applications. We had application blanks in our office. They used our office sometimes to— eventually they got bigger and bigger and at the present time there is a tremendous supply of federal employees— and not only in the Bureau of Land Management, although they have a lot of them there—but in every other federal agency, probably more than is necessary. To look at it now, it isn't only grazing; it's recreation, minerals, a lot of other things that were not thought of in those days.

You asked about how the stockmen were convinced or recruited to go into grazing districts. There were several factors which helped bring this about. First, the prices were terrifically low. A lot of them were broke, or very near broke. Second, we had been in a drought which was bad. Third, there was some over-grazing in certain spots due partly, actually, to numbers of livestock, and [partly] actually due to the drought. Then there was the so-called tramp sheepmen. The cattlemen were all for eliminating them, just driving them off the range and eliminating them entirely. Then there was, it made it appear, the way that it was presented, that this was a cure-all for all those things; that you would have a blooming range, that you would eliminate the stray livestock men, both cattle and sheep. The better-equipped ranchers that had the base property went for that immediately; of course, they were politically stronger than the others that had no base of operation. And propaganda through the newspapers and through the news media was that this was a terrifically bad condition and it could be corrected and the costs would be minimal, and no inconveniences.

As I look back on the livestock industry, the ranges, game, recreation and all the other factors that played into it, I'm slightly

disappointed in that it has not corrected the ills that were pictured as being so evil in its entirety. It has helped in some cases. Unfortunately or fortunately, the public ranges have become a battle ground for recreationists, livestock people, ecologists, conservationists, all other factors of our society that come in contact with the ranges and the deserts. It has not corrected any one of the evils; it has helped in some cases. We still have erosion, we still have droughts, we still have ups and downs in feed supply, we have the added impact of a great number of recreationists that are probably doing— or will do—as much damage as the livestock did to the ranges, through fires, overuse, pollution of our springs and streams.

It has probably not helped in game preservation. Not because I think that it would have helped, but with the mobility of the so-called sportsman and the additional roads, the different kind of vehicles, have permitted the hunter and the fisherman to go into areas which were denied to him before. The great numbers of people that are out hunting and using the range, we being to see a lessening of our game birds—sagehen, chukars, quail, deer. We built up a great deer population in the late '40's, early '50's; we are seem' 'em disappear now. We have other management agencies, such as the Fish and Game Commission and our Fish and Game Department, but we're thinking mostly of people; we're not thinking of the ranges themselves or of the mountains and streams, we're thinking of, how are we going to take care of this great number of people who want to use this outside range?

We should probably take a look at, how is this range, or how are these mountains and these deserts and these small streams goin' to be protected, goin' to absorb or adapt to this new impact of people? I think we're looking at

it from a *people* point of view instead of *range* point of view. And when we get the ecologists and conservationists all of 'em mixed in there, with some of 'em having good ideas and some of 'em having rather poor ideas, and then all the bickering and fighting that goes on, and instead of probably settling it in an amiable way or an educational way, we pass more laws and restrictions. And anytime we pass a law or restriction, there's a lot of thought goin' into it but there's others sittin' on the other side of the fence, [thinking] how to break the laws or restrictions. There's just a million people thinking how they can get around it. There's always more *lawbreakers* than there are *law-makers*.

RANGE IMPROVEMENT

The reseeding of the ranges is now developed to an act and a standard practice. But back in the '30's, it was quite an unknown quantity. And many attempts had to be made, actually, to find out how to do it right. And what happens now, they get what they call these brush plows—large brush plows— and they go with a great big tractor and they pull the plow and they pull the harrows and they pull the seeder at the same time, and it's all done in one swoop and it's very effective. And if they get the right climatic conditions, plant early enough when they get a little moisture in the ground, it'll germinate.

Crested wheatgrass is the most common; other grasses have not proven too successful. The crested wheat, there's several varieties of it that are very good. But in those days, we hadn't developed those methods. And again, all of us don't pay enough attention sometimes to rumors that we hear, or somebody talks about it.

Now, there was a railroad man that had a hundred and sixty acres up at Crestline—

that's east of Caliente. And he came to me and he said, "I want you to come out and see my crested wheat," he says, "I bought some seed and I planted it and it's growing just wonderful."

So I went out there, I took a look, and I could see a little crested wheat out there and it *was* pretty good, but I didn't associate it with what he had done and what had happened there. But this was long before any of the ranges had been seeded. He'd taken a field which was about, if I remember right, forty or sixty acres and he'd tried to grow dry land wheat on it—it was up at a pretty good elevation, probably about six thousand feet. It was good soil, the brush were off of it, it was fenced, and he'd gone in there and planted this crested wheat. And it had grown.

Now, we got ahold of crested wheat and we went out and scattered it on the desert and nothing happened, because it had competition with sage brush and other grasses. But here, he had limited competition, and he had done the things that were necessary and he had a plot of grass growing. If I had been able to interpret what happened there and actually knew what was happening, I could have probably helped him speed up this [laughs] process because this was developed ten years or so before we actually had successful plants.

There's probably one of the biggest plots of crested wheat in the whole state of Nevada, just north of Pioche at Geyser. I don't know, there must be twenty-five or thirty thousand acres there and it's properly fenced and it was planted in cooperation with the Bureau of Land Management and one of the ranchers there. And it displaced a lot of sage brush and juniper and what-have-you that produced very little feed, and it has helped maintain the livestock industry in that area; it's very good. But we missed it.

In one of our first trials, we did several things. One of 'em, we didn't prepare the

ground right, wasn't planted right and it wasn't planted in large enough quantities. We tried a few test plots, but when you try a few test plots out on the desert and you don't protect it from the rodents and rabbits and what-have-you, they come in and they just clean it out. And you just can't get it started. So you can't plant small plots. And you've got to do it in a certain way to get it to grow.

COOPERATIVE MARKETING OF RANCH PRODUCTS

Now we're back down in southern Nevada. It seems that Las Vegas was small in those days and—that's before 1935 or '36—and the local ranchers and farmers (mostly farmers) produced a few pigs and a few lambs, veal. And their custom with those animals [was to] bring them in and sell them to butcher shops in Las Vegas. Well, this was not a very good practice, in summer in particular. And there was a marketing problem there. Actually, it was a marketing problem and it actually appeared much larger and more serious than it actually was. This was caused by two things. First of all, it wasn't a large amount; it didn't involve a large amount of livestock. Second, there were no killing plants. Transportation was very poor, no trucks. They didn't have enough livestock to for a buyer to come by and load 'em on a railroad car and ship 'em to market. So this caused quite a little problem. The idea began to form that they'd form a cooperative and have a killing plant in Las Vegas.

Now, there was a little killing plant in Las Vegas that operated off and on when the numbers of livestock was there and when the market was there. The ranchers and farmers felt that they were taken advantage of because that was the only outlet. And it was due to health reasons—you can see the

reason for not slaughtering livestock in that area, particularly in summertime. It just wasn't done. Refrigeration, there was just no refrigeration and sanitation, and the state Health Department, state Department of Agriculture started to clamp down on farm slaughtering. So they organized the Southern Nevada Meat and Provision Company, with the help of the Bank of Cooperatives. And they bought out the local packing plant that was in Las Vegas and they hired a manager.

Now, some of 'em—I think the first manager they hired, I think he was a manager but he didn't know anything about meat. So he got in trouble very shortly. Then they hired other managers and they seemed to all run into trouble. But analyzing it now I see several problems. One of 'em, the ranchers and farmers thought that there was a lot of money in packing plants. Well, there is a lot of money in large volume, but it doesn't mean that you can get a lot of money individually, any more than the worth of the livestock at the particular time. There just isn't that much difference between the buyer and if you slaughtered and sold direct to the market. You've still got to compete with the outside supplies.

The other problem was that there wasn't just enough livestock in the area. You know, when it really came down to it, it was some calves and some fat steers and some hogs and some labs, but no steady supply. They did not make provisions for that, they didn't have a feeding plant or feed lot, they weren't equipped or financed to actually do that, and they thought that they probably could corral most of the market in Las Vegas. But the transportation from outside areas, by this time trucks and through trains, just eliminated the closed market.

So they operated about—I don't know, they must have operated eight or ten years,

never really was too successful. It relieved the situation a little bit, but never was too successful. And I don't think the cooperators were too faithful to the outfit, either. Whenever they got a chance to sell on the outside, thought they could make more money—which is natural—they sold outside. So they had no steady supply. So it eventually went under. I think that probably they were very fortunate because they had purchased the—I think it was—Blanding Slaughter Company and they had quite a little area of land around the plant. It closed down, and it was a few years before they liquidated all of the assets, and by that time the price of the land had risen up so high, that I think they came out of it all right. It was not too successful a venture. This represents kind of the extreme in cooperative marketing in Nevada. But there has been many attempts made to have cooperative marketing in the state, and none of 'em have been too successful.

The most successful was the Nevada Turkey Association, an association of cooperatives grouped together under the Norbest or Northwestern Turkey Association, nationally. (They later changed to Norbest.) And we had three or four associations under it. One of 'em was in Lovelock, one of 'em was in Fallon, and one was Walker River Turkey Growers in Yerington—I think it operated one year in Clark County.

This was when turkeys were New York dressed, as they called it. They merely killed 'em, picked 'em, did not eviscerate, and cooled 'em and shipped 'em out. And this method of marketing was still in effect in 1943, when I moved to Yerington. By that time the growers in Fallon, which had been the big grower were growing less turkeys and marketing I em in a different manner.

But the Walker River turkey growers were still going fairly strong. We had at that time

probably thirty or thirty-five growers, turkey growers, and they probably marketed about fifteen, ten, 12-to 15,000 turkeys a year. And they had a packing plant, an old warehouse in Mason. We set it up so we had a room in the basement for slaughtering and picking turkeys and we packed 'em on the main floor up above and we shipped out mostly by refrigerated cars.

And one of the ways of financing was to withhold a small percentage of the payment for turkeys for about eight or ten years and then it was refunded back to the growers. When I got there in 1943, as I said, we were packing probably 12,- or 15,000 turkeys. Fallon had practically quit, Lovelock was not in operation any more. Shortly thereafter, about '46 or '47, they started the turkey packing industry, went a different route. They started to not only pick, but eviscerate and freeze turkeys. We didn't have that kind of plant and it was costing too much money. So for a few years, we actually shipped live turkeys through the turkey growers association; we shipped 'em to Norbest in Sacramento. Eventually, growing cost and the price structure on turkeys changed so much that it was unprofitable for growers to grow turkeys in Nevada. About 1950 or '52 or '53—somewheres in there—they quit growing 'em on a commercial basis all over the state.

Oh, just to kind of finish up on the turkey growers. I was still in Yerington when the Norbest started to send back the amount that we'd withheld from the growers. And the Fallon turkey growers had gone out of operation, and Lovelock, so the Walker River Turkey Growers became the custodians, I imagine, of the books of the Nevada Turkey Growers Association. So Mr. Herb Rowntree, Mr. Farias, some of the rest of the growers came in and we worked out a deal where, when we'd get these refunds, we tried to

first divide 'em by weights and send 'em back to the respective growers associations, Fallon, Lovelock and Walker River. And then, for the Walker River, we tried to break those down into individual growers that had shipped turkeys. This was quite a little job. The Extension Service did most of the work, employees we hired. We did hire one clerk there and I supervised her to work out the details of the amounts that were going to each grower.

And a surprising thing had happened, we found. It was twelve years before we got any of the rebates, and in those twelve years, we found that about one-third of the growers that had been active, we could no longer locate 'em. Some of 'em had died, some of 'em had moved to new addresses. And this is the first time I became aware of how mobile the people of the United States—farmers and all of 'em—how mobile they are. Because here was a pretty near one-third of the rebates that were going back to 'em, we couldn't locate 'em. We had an awful time with that. I left that money there, for the turkey growers.

In the cooperative marketing, I think probably the man that had more to do with it than anyone was Professor L. E. Cline. He was poultry specialist at the University of Nevada, and he was very influential in actually setting up the Norbest or Northwestern Turkey Growers nationally. He served on their committees. He did a lot of research on feeds and feedings and diseases. In fact, he wrote a book on turkey production for Nevada Extension Service, which is actually, for that time and I think it probably still holds to some extent, a classic in turkey production and marketing.

L. E. Cline stayed with us to the very end. He directed and organized and helped us a little—there's a little side story on that. He used to bring his wife, Mrs. Cline, with

him. And she never attended the meetings or anything of this kind, but he would dictate and she would do all the typing and all his work for him, to organize it at night and he'd have it the next morning.

We just told the tale of the turkey marketing and how it eventually failed—or didn't fail in marketing, but it just became uneconomical to produce 'em in Nevada and the numbers that we produced were so insignificant that eventually, we went out of the turkey business entirely. This, unfortunately, is a tale of most of the cooperative efforts that were tried in Nevada. We had the Honey Growers Association that was active for a while. It was active mostly in Lyon and Churchill counties. They marketed the Diamond brand honey. The Nevada product—honey product—is today, and was in those days, exceptionally good honey. But the production was small, the growers never did stick really together, and eventually they just went out of business, the honey growers.

Oh, there was several attempts. It was carried on in livestock marketing by gathering together and shipping odd lots of cattle to the central markets. This was carried on in the late '40's, and I think up to around 1950, with some success, due to more or less to one or two man that actually handled it. It was always aimed at taking care of the small producer, because he had nowhere else to go with his few head. At the present time, the prices now, why, he finds that the livestock sales yards have taken that place in the marketing to a large degree. But in those days, there was no livestock sales yard. So this was an attempt to take care of the small producer.

Years later (I think it was about 1948 or '49), several attempts had been made to have the hay growers get together and market cooperatively, and none of 'em were too successful. About that time, about 1950

or slightly before that, there was quite a number of new people move in to Mason and Smith valleys. One man moved in and he was looking for something to market cooperatively or to manufacture. He talked to me all one day and I says, "Well, we just don't produce any amounts of vegetables or potatoes or anything in large enough numbers, large enough acreages actually, and for a long enough period of time to actually go into the market and be successful in any processing plant that we have." I said, "There is one produce that might—" and I mentioned alfalfa hay.

Well, he took that seriously and he began to make investigations. I worked with him and with the ranchers there and he finally went down into Antelope Valley and observed what they were doing there. They were making alfalfa meal, actually, and handling sales of alfalfa, baled, into the markets in southern California and around Petaluma. And finally he got organized.

Now, he was about the cleverest operator that I ever did see. I finally came to the conclusion that he was leading the ranchers and the farmers down to a rather poor trail, so I tried to oppose him at meetings and wasn't successful. So he convinced them that they should buy a mill, alfalfa meal mill, in Antelope Valley, which was already—it was a secondhand, and it was already outmoded. He convinced 'em to move it onto his land out just south of Mason, in Mason Valley and set it up and make alfalfa meal.

Well, they tried that and they did make some meal and they did sell some meal. And they went into buying wire for the growers and marketing some baled hay. But the costs finally started to catch up with 'em. They did not have a good fiscal control on the cooperative and he made some expenditures,

eventually they bought hay on credit from the growers, and eventually they started to go down, started to go bankrupt. There was quite a number of farmers lost money in hay they produced there.

The odd thing about that was that they had a cooperative and I tried to warn 'em but they paid attention to him. Then they went broke, he put in a bill for his managing the firm and for rental of his mill and everything. By that time, the growers there, who were my friends, who I'd warned that they were going to be taken, came around and says, "How will we get straightened out?"

I said, "Well, first thing, bring me your books. I want to look over your books and your minutes."

And I went carefully over the minutes and I found that this man was not a member of the association, he was not a member of the board of directors, and he was never hired as a manager, but he had assumed in his dealings—he'd just assumed that he was the manager and he operated as a manager. So I got the group together.

He sued 'em for his wages. I said, "The first thing that you want to do is pass a resolution and notify him that he is fired as of this date, and then we will hire an attorney and we'll see what we can do about getting some of your—at least not having to pay his salary for several months that the outfit was not operating.

Well, we got the letter off, but they never got the point of hiring an attorney and they finally paid him off. Which was really a sad, sad story to tell on the cooperative marketing in the state of Nevada. I didn't feel so guilty about that because I had been in as many meetings as I could and I had told 'em what was going to happen and finally I wasn't invited to any more meetings, 'til they got into trouble, but—.

MILK MARKETING

Dairymen, distributors, and generally the milk industry has always been kind of a, well, I don't know how to state it, but they've always kind of at war, as it were.

The first dairy, of course, came in early in the state of Nevada because they needed dairy products and they needed milk. And if you go back on the history of dairying in western Nevada, it closely followed the development of mines. First they had to produce the milk for the mining camps. I guess it was pretty poor quality, because I've had two or three old timers tell about, for example, the milk supply in Virginia City where they milked cows close-by and it was all hand milking. They brought in hay and grain to feed the cattle. Then they distributed it from milk wagons and they were just a bucket—it was just a big barrel and on a wagon and they dipped it out and sold that. There was no cooling or anything else; it was just milk. And I guess it must have been a little bit bad, but some of 'em survived it anyhow; let's put it that way.

But they also needed butter and they also needed cheese, so you had quite a milk industry develop in Carson Valley and in Washoe Valley and, of course, in the Truckee Meadows. It got up as far as Sierra Valley, where they made cheese and marketed cheese.

Well, as the population in Virginia City and the mining camps went down, they had to do something. So the milk industry kind of turned into butter, actually production of milk for butterfat. Only close to the cities was the fluid milk industry developed to supply the local demand. This is before health regulations and state regulations were in effect. The milk supply, I imagine, was not of the best quality, but it was good for the area when they had to have it.

So as the thing developed, well, there's always been a problem between the producer and the distributor. I'm not sure exactly when the Western Nevada Dairymen's Association was formed. When I came here in 1954, it was already going and I'd worked with it in Yerington, so I think it started in the early '40's. I think Archie Albright may have had something to do with it, and Elwood Boerlin probably had something to do with it. It was set up and I think that L. E. Cline probably wrote the constitution and by-laws and membership agreements. And it was set up so that it could do any of many things. It could bargain, it had to distribute milk, and it was so used.

So when Reno began to develop regulations for Grade A milk, they'd decided to clamp down for proper handling of milk, so it began to function. There was always a big disparity between the producer and the distributor, price-wise.

I came into Washoe County in 1954, and it was going pretty hot and heavy. We were having quite a number of meetings, generally once a month, on milk problems. At that time also, the dairymen were still combating the artificial butters [margarine], and they were afraid, and they didn't want margarines to be marketed with the coloring. And, you know, taxes. And they were worrying about those. You look back on it now, and we just don't produce enough butter. If it wasn't for margarine, we wouldn't have any spreads, enough spreads for the people as they demand it. We just don't have enough butter. So these were all problems. We tried to establish some kind of a price that would be fair.

They'd be buying Grade B milk and using it for Grade A and there was a lot of disparity there. The producer had no way of checking on how much of his milk that he

produced under Grade A system, how much was actually being used for Grade A and how much was actually being used for Grade B, and then use it in Grade A.

So during this time (I think it was about 1955 or thereabouts), we had a series of meetings. And there was quite a little war going on between, I think, the big distributors also. And we would have producer meetings and then they'd have distributor meetings and then we'd have combined meetings.

I don't know how this happened, but I was at a meeting and somebody reported that we were trying to fix prices. And somebody reported to the FBI, or I don't know who—, somebody reported anyhow; they claimed that we're meeting to fix prices. So one day I was sitting in my office and a process server came up and he walked over by my desk and he said, "Are you Louie Gardella?"

And I said, "Yes."

And he says, "I have this summons for you," and he handed it to me and touched me with it.

I opened it up and I said, "I don't want this, I'm not a milk producer."

And he says, "Well, you've got it."

So I knew then that all that was in the meeting must have been served with it. So I called the dean immediately, and I said, "We're in trouble," I says, "I think all the rest of the agents are in trouble; we've been accused by the—(I'll try to remember that), price fixing."

So he scurried around and we had a hearing in Carson; about a month or so later, we had this hearing. And he was able to get us out of it by—I don't know what we pleaded, we pleaded something or other. We were public employees and he got us out of it.

And this was actually not the case. They accused the dairymen of doing the same thing and they got 'em to all plead, put in a pleas

they weren't guilty or something. Anyhow, they didn't come to any actually court case, or anything. And I was rather disappointed in it that they didn't, because I just felt that they weren't guilty. And there's no punishment; there was actually no punishment. It was a rather odd situation. There was actually no price fixing. We were trying to establish a quota system of some kind. And as a result of that, we came out with the Nevada State Milk Commission.

And about that same time, they were talking about the federal milkshed districts, which would have [been] just as bad or worse than the commission. The commission is still functioning. It's under the state laws, and it has a director, and they meet occasionally and they readjust milk prices according to feed prices and costs. But I think that there's a little racket still going on in the milk business. I'm sure of it. But it's lucrative; I'm sure that there's payoffs still going on. And we knew that there were payoffs at that time.

Well, it was along about this same time that there was quite a—well, actually it was a change in the marketing of milk. There were a lot of small distributors, producers, distributors—some were strictly distributors—but there were several distributors that were rather small and local. And the area finally got large enough in population that it attracted national distributors, milk distributors. And one of the outsiders that came in was [William] Tyson, who established the [James Canyon Ranch]. And he milked and he distributed. I guess his business operations weren't too successful and he finally went under. There was quite a little chaos in the market there. Meadow Gold came in, Safeway brought their milk in, and they were producing a lot of milk and in Utah and California. They had to find a home for

it, so they brought it in here. Now they more or less cooperate and they buy milk now from the local producers.

About the same time, the Nevada Associated Dairymen took a little different turn. They hired a manager and bought tank trucks and handled the production from their own growers. Then they would sell to any other distributors. They didn't actually go into the distributing business, but they acted as a cooperative for their growers. I think this was probably a stabilizing effect on the milk production in western Nevada. There was some fight between them and the larger distributors, but definitely this was the change from the local distributorship to national distributorship. It was quite a little struggle at that particular time.

The Department of Justice, I think, was the ones that filed the charges of price fixing. And to me, it happened kind of odd. I was here in Washoe County and they came in, the attorney came in and demanded that I produce the books of the Associated Nevada Dairymen.

And I said, "I'm sorry, but I do not have the books of the Associated Nevada Dairymen," I said, "They meet here in the building, and I know about 'em and I meet with 'em, but I don't have their books and their notes."

He says, "Yes, but you better produce 'em because you know where they are at, and I am holding you responsible for them."

Well, Andy Hansen happened to have 'em and I had suspicioned that something like this was going out, and we had had 'em there. But sometime before this whole event occurred I had taken the books and by-laws and the whole thing out to him. And he had 'em. But, I had to go and ask him to give 'em to me so I could give 'em to the Department of Justice. They put the squeeze on me, and

I was not guilty, but they put the squeeze on me and made me come through.

LIVESTOCK FEEDING AND IMPLANTS

Nevada has always been thought of as a range area. And for many years, this is about what happened; they raised cattle on the open range and most of 'em were shipped out of state for finishing. However, in the valleys in western Nevada, some feeding has always been done. That's both cattle and sheep, for quite a few years. The old method was to feed 'em just plain hay, and then they got to feeding 'em a little grain, and finally they worked up to where they had feedlots, feed areas, and the feeding methods were better. This happened over quite a few years, quite a little length of time. But in the '40's and early '50's the feedlot conception became quite prominent even in western Nevada, where we had considerable amount of hay. They did produce a little grain to go with it, but the hay was here, the area was favorable to feeding, so that the industry got started in all western Nevada valleys.

At that time, I happened to be in Yerington when really the thing took hold. And we worked with some of the ranchers and feeders there on improving their feed rations. We worked with the Extension specialists and it wasn't long before they were using all the grain grown in western Nevada; they were going into Idaho, and shipping corn in from the Midwest and mixing it with our hay. This provided an extra outlet for our feeder cattle, and it provided for our grain and for alfalfa, and it did employ quite a few local people that were in the area doing it.

In Lyon County, we happened to be very fortunate that the People's Packing Plant was located there, which is a federally inspected

plant. And one of the owners, the manager (quite a remarkable man) Louis Isola, was managing that. I admired the man. He has a real ability. Therefore, we did a lot of work with him and through his yards there. He had received some of his training in the butchering business, slaughter business, in Italy where he came from. He'd come to Smith Valley to work for Fulstones, and then eventually got into the People's plant there. And he had a retail store and then they even had a little meat wagon that he drove around, and eventually got into big packing. He handled cattle, sheep and hogs. He handled all types of 'em from well-fed beef to cutters and canners and he found the market for 'em . So this was a real outlet for the people there.

So they began feeding operations, started rather small. The People's plant always had quite a little yard that they fed. They had to have a ready supply of different types of cattle, and so they went into the feeding operation themselves. This was about in the early '50's, I think, when they started to come out with the various implants and feed additives. We went to Mr. Isola and he allowed the University livestock specialist— (I forget the name of the man that did it, Dr. something-or-other) came down there, and we selected a group of steers and we implanted 'em (I think with stilbesterol tablets), and took the weights and graded the carcasses. I think that was about the second place this had been done on a fairly large scale in the United States. So this was done very early.

The results were very good. Of course, gradually, the suppliers and the cattlemen and all, they found out that they could feed cattle a lot more economically with the implants and additives. It kept on until in 1973, when all feed additives and implants of all kinds have been stopped. so you wonder sometimes, if you push a program and it's

good for quite awhile, and then they find out that something's not quite right with it.

Same thing happened with the use of DDT and other hydrocarbons that were used in the control of insects. We assumed that there was no residue, yet, after the use of the materials for fifteen or twenty years, we find that it *does* have a residue and it is some danger to human health. So these programs have had to be cut back, but at the time they were used, we did get a big increase on cattle and we got a big increase in production of crops with the use of chemicals.

You asked me about how we got these practices, such as using of additives or implants, or in new crop varieties, or more fertilizer or different type of fertilizers, or insect control. This is very simple; it's no problem. We ran the experiment or the test—field test, actually—and then we always had a control. And when the results were available, you just—there were the results, and if you took 'em out to a rancher or farmer and you could show him the results, and he had watched the process of what actually was happening, it was no problem at all. And I never found it difficult to get new use of new methods or new materials or new anything, as long as it made some money. And you could just prove it to 'em pretty easily. And there was no danger.

Generally, the way it happened, they wouldn't put all their eggs in one basket, they didn't go all out, although it was proven and you were pretty certain of it. You had to get 'em to try it on, probably not all of their crops or all of their livestock, but on a portion of 'em . And then they could see immediately, if it's good they'll accept it. Now, on the use of insecticides, for example in controlling weevil, there was just no problem at all. Because there was the increase in production per acre on a good alfalfa field, at least one

ton and probably a ton and a half per acre, with the same fertilizer the same watering and the same cost of production. And you get a whole ton or, well, you get twenty-five or thirty percent increase. No farmer or rancher is foolish enough to pass that up!

HUMAN NUTRITION

We were talking about the difficulty in changing methods of doing things on the farm or on the ranch as against the changes that occur where it's more urban or more—yes, we're more urban and the conveniences are there. I found that in adults, in carrying on their ranch operations, were not very difficult to change then you could prove to 'em that it was to their financial advantage to make the change.

Now, we did find some difficulty in changing their food habits and their personal habits. Adopting some of those things were a little bit harder. Now, for example, I was always interested in youngsters, and when we used to go to club camp I'd sit with the various groups. And I found from some of the southern areas and the Mormon population that came up from there, that they were pretty much addicted to—they liked meat and they liked potatoes and gravy and certain foods that they were used to. When we got at camp, there were other foods prepared there. And when sitting with the table and kind of supervising the table, I found that some of those youngsters just hadn't developed a taste for other foods. If they got off of the meat-and-potato-gravy diet, they objected; or rather they didn't object, they just didn't eat when you had some other foods that they weren't familiar with.

And I think this reflected back into the community also. It may have been due to probably financial situations in which they

developed a diet that was locally produced, of locally produced things. And they didn't have the money to buy the other ingredients or food stuffs that would have broadened their eating base. They just didn't develop a taste for it. Probably you have to change the tastes of people when they're quite young.

WEED ABATEMENT OR CONTROL

The formation of a weed control district, I formed really the first weed control district, I think, in the state, in Lyon County. And we did that because over the years, I'd made a survey of the noxious weeds. And in Lyon County, it was quite clean; there wasn't too many noxious weeds, particularly in Mason and Smith Valleys. And when 2-4-D came out this gave us a good weapon to use against weeds. We didn't want to get in the same situation that Lovelock was in, where practically the whole area was infested with white top, or Russian napweed, camelthorn, and other noxious weeds.

So we formed a weed control district in Mason and Smith Valleys. We didn't extend it any further than that because on the Carson River, there were a lot of weeds, noxious weeds right along the Carson River (they were on the farms there), or in Fernley, where there was quite a few weeds already. So since they shipped alfalfa hay into California and they had a ban on noxious weeds in alfalfa hay, we wanted to—. The way I convinced the ranchers there to go for it, is that here we had clean hay we could ship without inspection; there was no danger of holding up the hay. The hay being clean added a dollar or two a ton to its value. So that they weren't too hard to convince. So we organized a district and it's in operation at the present time.

I think we organized that about 1950. And the county assessed a little bit on the tax

rolls for support of that work, and I think that they have worked with the state Department of Agriculture and they hired there locally. I think they're supervised by the county agent. Probably a local man kept track of where the noxious weeds were and what could be done. We only found two or three that objected, and we cut them out of the district; we just left them out of the district. But it's been pretty effective. I think that was a good piece of work; I think I did to help organize that. It's just kept, I don't know if they eliminated the weeds, any at all, but at least it's kept them under reasonably good control. I don't think they've spread very much.

In the control of noxious weeds, we found also that good cultural practice was very effective. And with the help of the 2-4-D and other types of weed control, chemicals, it did and is very effective in keeping down the weeds in an agricultural area. Valuable land will be protected by the owner, if he can possible do it, if he doesn't mind spending the money. This is again, a new, well, practice that's introduced generally and always pretty near always on an economic basis. If it's effective and it produces results, a rancher and farmer will follow that practice.

There was really one large one that opted out of the district. He didn't feel like he wanted to pay the taxes that were—they were very small. But he had a weed sprayer and he had everything that he could do it himself. And I think that he followed the same practices, actually.

On weed control, I want to cover one weed that isn't ordinarily thought of, and that is the wild flag or wild iris. That was very common in the mountain meadows and the area in Bridgeport and Topaz Valley, and some in Smith Valley. This is a native, and when grazing's done and irrigation, it spreads in

grasses and cattle will not eat it. And since in those areas you ordinarily don't plow those meadows because it's subject to flood and erosion, reestablishment of grass is a little difficult. And yet in some places, they're taken probably fifty percent of the pasture lands. So we put on quite a campaign and were quite successful in eliminating or cutting down the amount. We found that using of 2-4-D and 2-4-5-T and adding oil to the mixture and then spraying on a rather warm day in the morning, that it was quite effective. It didn't kill 'em all, but it got a good control and the grass immediately came back. So this was cultural methods, again, of holding it in control. I think that this added quite a bit to the pasture lands and to the amount of feed that was available for cattle.

In the State of Nevada, we've had certain importations of weeds and trees and shrubs from other countries. And due to the fact that we don't have a natural enemy to control 'em, and the climatic conditions were similar to the country from which they came, we have had some problems with them. To think of a few of 'em, Russian thistle (which is tumble weed) came into this country probably about sixty-seventy years ago. We think of it as a native, but it is not a native. It was imported in here and it took up residence. The other one, bronco grass (or june grass or *Bromus techtoriurn*), was not a native; it was brought in wool or sheep or somehow. It got in here and the conditions were very favorable to it. Many looked at it as a weed, and some look at it as a good feed. It's definitely a fire hazard. It does produce a lot of feed in favorable years, and in areas where no other feed would be produced. It has had, probably, an effect of reducing some of our native plants.

Among the others that we have had in cultivated areas, we have in our cultivated

feed, particularly our grains where they have some alkali, we have what we call ironweed (I'll remember the name later). And this has come into all of our western Nevada and southern Nevada as well. In a way, it's a very bad weed, because it grows very tall and is competitive and crowds out grain. It doesn't grow in alfalfa and it doesn't grow on really good lands that do not have any alkali. But on the other hand, it's used. Cattle eat it when it's young and they even eat it when it's old. It has another beneficial use, that it'll grow where practically no other weeds will grow, you see, and it starts loosening up the soil and putting roots down in the soil.

But probably our worst offender is halogeton, which showed up in northeastern Nevada some forty or fifty years ago. And this is definitely a poison at certain times and under certain conditions. It kills sheep and it kills cattle. And for a long time, the state Department of Agriculture and others fought it very desperately.

But no matter what you do, when a weed comes into an area, you just don't eliminate it. I had that experience. We had no halogeton in Lyon County, and one day I was driving just north of Yerington and I looked out and here I saw halogeton. Somebody had brought in a bunch of cattle and they had unloaded the cattle and then they'd cleaned the truck out—manure and the bottoms of the truck out—they dumped it along side of the road, and here was a patch of halogeton. So I immediately got out and looked at it and kind of surveyed where it was and got the road department, Yerington road department, on it and we sprayed and we dug up. And I carried a shovel and whenever I'd see a plant in the area, I'd go after it. But it's still there; I'm quite sure that it was never eliminated. It was only a little patch of five or six acres that was

scattered on when I noticed it. But we never could eliminate it.

This is true, I guess, of insects (our weevil came in from outside) and in our bird life. I think I mentioned 'em before, the starlings and the sparrows. They have taken a hold. The starlings in particular were very much of a menace around our feedlots. They're messy and dirty and they come into cities and I imagine that they've had a definite effect on other wildlife. They eat their foods; they have a wide variety of diet that they can pick from. They'll compete with any bird.

We talk about introduction of plants and animals and birds from other countries and other areas. And I think that one of the saddest stories that was ever told [was] when all agencies started recommending the salt cedar as a plant that would survive in rather desert areas and thrive and prevent erosion. It was introduced into many streams in southern Nevada and Arizona and other wheres. And it was actually, I think, introduced in the Walker River area. And if you go down there now, the salt cedar has taken over many of those pastures. And you'll see it up at Lovelock, at Toulon reservoir, and you'll see it down at Fallon. This is a very high water-consuming plant. It has no value as a feed or as a tree product. And it's just going all over. And it's crowded into many of our streams. I see it on the Truckee River. And this is going to cause us just a lot of bad, bad problems. Sometimes we see a plant growing in its native area and it has natural enemies or controls of some kind. And you introduce it into an area where there is no control, and it becomes a pest. I've tried to call attention to conservationists and our fish and wildlife people, but they just don't seem to quite understand it. It is a big bad problem, and it's going to be worse.

I saw it first down in the Virgin and Moapa Valleys, where it was crowding in on the river banks. It just crowds right out—it can stand a lot of drought, there's very deep root system, and it can grow damn near in water. So it was a very wide range of growth situations. It doesn't grow too much in the colder areas, I don't think it grows very much colder than it is here. But it does grow here. It apparently is adaptive also, but it can—I don't know if it adapts itself to colder climate of different conditions. It's a North African plant or tree. And it's very resistant to any chemical control.

It's very hard to get any agency or any group of people to take note and take some effort to eliminate that type of infestation. I don't know if it can be done, but you can't interest individuals entirely at all. They say, "Well, that's just a little plant, it isn't going to bother us." But it grows and eventually we just assume that it's native, but it isn't native. And this is the thing that makes it very difficult to eliminate.

One of the plants, actually noxious weed, was licorice. In Lyon County, practically every ranch or farm there had a licorice patch. Now, they must have used it as an herb in the garden? they must have done something with it because it was planted in every—. And this is a very difficult one to kill out. We tried 2-4-D and several other chemicals on it, and—very hard to eliminate. It could eventually develop into a noxious weed which would be very bad. Nothing eats it and it's very competitive; it's big and it's competitive and it could block out pretty near any other type of vegetation. And it'll grow in very dry, or it'll grow in considerably wet soils; it'll grow in good soils or sandy soils or poor soils, anywhere.

I might add one more tree to the list of imports. And that's the elm tree; that is, the

Siberian or Chinese elm that was imported in here. We actually recommended it and we passed it out through the cooperation of the Forest Service to get it scattered in every farm and ranch in western Nevada. Now, you could find it'll grow along streams. It has tremendous reproductive [power], produces tremendous amount of seed, so that it reproduces itself in a native tree. And this is going to, again, be quite a change in our vegetation. It'll displace some willows, it'll displace cottonwoods, it'll displace many of our native trees or shrubs. And it's not good, but here we have it.

When I first went into Extension Service, the weed problem, of course, was present and it's continued to be present, but we had no method of controlling weeds other than hoeing or pulling or in some way actually destroying the weed by cultivation, or by some such method. When 2-4-D came out, it was a blessing. I remember the first advertisement I saw, in one of the farm magazines. They were selling 2-4-D by the gallon up in Minnesota; I think it came from Milwaukee. I think it was fourteen dollars a gallon. So I sat me down, and ordered a gallon of 2-4-D and brought it in. I was in Yerington, and what I was particularly interested in was morning glory, since we had a lot of morning glory in the fields there.

So, I had a youngster that was going to school here, Noel Willis, come down there, and I hired him for the summer as assistant agent there to help me with club work and whatever I had. He just was out of the army. He had been a navigator in the Air Force, and he came out of the army and he was finishing up school. He was very meticulous and he was very, very precise.

So I told him to go to one of the ranches there. They had a field of wheat, they had morning glory in it, and I told him where

I wanted it done and I told him to go out there. We had a sprayer. It had to be all done by hand, and we were putting out a test plot. This was probably the first test plot ever put out in the state. So he went out and he was gone all day. He came in and I never saw any nicer laid out plot than he had done. He had measured very carefully and marked it and staked it and he had it all plotted on the map. And I looked at it and I couldn't have done [laughs]—couldn't have done that. I would have just gone out and put some on. But he really did it.

He put several plots out—that I told him—over a wide variety of plants. And one of 'em was the bull thistle (we had a lot of bull thistle down there), in one of the farmers' pastures there that was close to the road, but one of 'em was in the wheat field. And we tried to kill morning glory. So, lo and behold, we discovered that it was just very effective on 'em —on the morning glory control.

But towards the end of the summer, the farmer came in and he says, "You know, Louie," he says, "The morning glory is comin' back."

And I said, "Oh, it can't be."

He says, "Oh, yes it is."

Now, we didn't know very much about how this material worked. It did kill tops, and it killed all the vertical roots, but it didn't travel horizontally. So, it killed all the vertical roots, and then naturally, a plant that grows like morning glory, the horizontal roots were still down there and they came up. They eventually came up. So, we had to change our tactics there a little bit and we used it very effectively in controlling morning glory. So, you would treat towards the end of the season and then go in and plant your alfalfa, so you would get a stand, and then the alfalfa would actually shade out the weaker plants. And this worked very effectively. We found that

it worked pretty effectively on two or three other plants, which was white top and Russian napweed in the field; not as effective though, but it did work.

But, I was telling you about this bull thistle. They put it on—and they were great big plants—we got a good kill on 'em. And again, the rancher came in and he said, "Say," he said, "I noticed that I got nineteen little steers out there in that pasture and they're eating that dying bull thistle," he says, "it's going to be poisonous to 'em."

Of course, I had read that it was not poisonous but I didn't realize that when they killed a plant, it apparently became quite palatable to the animals and they'd go out there and eat it, even with the stickers and all on it. So, I spent the next two weeks, every morning, my first job was to drive down the road and I would stop and I would count one, two, three, four, five, up to nineteen; see if there was nineteen steers out there, then I would drive to work. But, for two weeks I [laughs] counted those steers every morning, because here I've used something that I wasn't familiar with. Fortunately, it was not poisonous to 'em, but this could have been—it just could have been a very bad situation.

We used 2-4-D again in production of grain. There was always a struggle to get a grain crop to grow without too many weeds, so that you could harvest it and it wouldn't kill the grain. So, we found that we used the airplanes first, we used the 2-4-D when the wheat or barley was up oh, three or four inches high, and the little annual plants, Forbes and other stuff that was there, were very small. And this was very effective.

We ran into another odd situation. The people that came in and did the flying for us—they'd come from California or they worked in other areas—and they'd recommend, or they used a given amount. And we soon discovered

the amounts that they were using were not sufficient to kill the plants that we had, although they were similar plants. It took us a year or two to figure that out. But they figured out that we had cool nights; the cold nights and the warm days made our plants quite a bit tougher and we had to practically double the dosage that was used in California or where there's more moisture in the atmosphere and the heat and the cold is not as intense as here. The plants were tender, but here you had to use about twice the amount.

They started to produce onions in Lyon County and we used 2-4-D to treat, for control of onions. This was a great savings in the cultivation and weeding of onions. It was a big savings and it helped the ranchers to produce competitively with other areas. We used DDT dust first and then spraying for onions to control thrips which were—you just don't produce good onions with thrips. And there again, we didn't recognize that the thrips were growing immune to the use, after a couple three years. They were pretty immune to it—not immune, but they were pretty resistant to it. And we had to use more methods and get greater quantities of water to get 'em covered.

One little incident. I found dieldron so effective in control of weevil, that I was probably the first one that tried dieldron on onions. And it just happened that my friend the inspector for the—I don't know, he came out of San Francisco, Pure Food and Drug [Administration], I think it was. And he came along one morning and I'd gone down and started the treatment, help start the treatment on a field of onions for thrip control. And he asked me what we were using. Ordinarily, we would have been using DDT, but I told him we were using dieldron, which I found we shouldn't have told him, because that fall when the onions were harvested, I got a call

and they said, "Well, we received some of the onions with dieldron, that you treated with dieldron, we want to know—" They asked me quite a few questions because apparently, they were trying to locate 'em [to see] if there was a carry-over in the onion. I don't know if there was or not. But, anyhow, they checked it right closely and he showed up again. And I said I should never have done it because that was an only time that it had been used, first time that it had been used,

INSECT CONTROL

The mosquito control, of course, is a popular subject wherever there are mosquitoes. And in western Nevada wherever there's water and swamps, there's mosquitoes. So the first encounter with a lot of mosquitoes was down in Lyon County. And the county commissioners there, and in the city councilmen of Yerington, they are—. The first use of it that we had was done by the Farm Service Company of which I was part owner, for the city there. We adapted a little tractor, using DDT and fuel oil, put it through a cylinder that heated up and fogged it. And they would treat the town, around the town. It killed the adult mosquitoes. There was some spraying of swamps and sloughs, but it wasn't too effective because the area that is mosquito-ridden is very wide.

When I moved to Washoe County, I found the same things happening down in the Vista area along the Steamboat Creek. And I worked with the local people here and they did quite a bit. The Health Department, or somebody, got into the spraying of mosquitoes. But the thing that really cleaned up the mosquitoes was largely drainage, and development has cleaned up a lot of 'em .

When I went to work in 1934, as I think I've stated previously, about the only thing that

we actually had was the arsenics—lead arsenic and calcium arsenic and Black Leaf 40 and a few [others]. They actually were poisonous; stomach poisonous. Then about 1946 or '47, when they developed the hydrocarbons, of course, was when this gave us another weapon that we could fight insect control. About the only other thing that I did in Lincoln County was that we had an old sprayer down there that belonged to the county. There was quite a little fruit. We got it fixed up and we'd loan it out to the ranchers and they'd spray their fruit trees with arsenic and for control of the coddling moth—you know, this kind of thing. There was very little of insect control, because we didn't have the methods and the crops weren't growing there.

But when I got to Yerington I found that the weevil which had started at the fairgrounds here in Reno, in 1922 or '24, in there somewhere—they came in on the race horse hay. It spread throughout western Nevada and throughout all of Nevada, in fact, and had been very damaging to the alfalfa production.

The weevil damage is done by the larval stage, mostly. The adult hibernates and comes out in the early spring. When the alfalfa's about four inches tall, why, it starts to lay eggs on the terminal buds. They hatch in a few days, and they start eating, and the larva grows to maturity and it goes in pupates, and goes back into the adult stage and then goes into dormancy, and this process is repeated.

Well, when it came into western Nevada, the only thing that they had was the arsenics and they generally tried to dust. They developed again, a duster, which was very good. They'd wait until the larva population was at the highest point, which means that it had done most of its damage and then they dusted the fields and the larva ate actual poisons and died. It didn't seem to affect the livestock, cattle

feeding on that. You had to wait about a two-week period. It didn't seem to affect the feeding qualities of the hay, but it did affect a lot of the other insects, honeybees in particular.

So when the hydrocarbons came in, we started to use those. I think one of the first ones we used was DDT and then we eventually got to Heptachlor and Dieldron, but in between we used several others that were developed. We brought in airplanes; they dusted and then they sprayed. We actually started using the airplanes on arsenic dust, and then as they phased out, when the hydrocarbons came in, we used the dust and we used the sprays.

This was very effective and it increased the production by at least a ton or a ton and a half per acre. It did two things: it kept the crops growing and the leaves and the first crop, but the other thing that it did, it—there was a period there, when you cut the hay, if the weevil was real bad, the larva dropped down on the stubble and they actually ate the little shoots as second crop started and the fields remained barren for three weeks, at least, in the summer. And this was the most important growing time period of the year. And it not only reduced the first crop, but it delayed the second crop, and practically eliminated the third crop. So, it was probably ton and a half—and I know it a lot of fields it was a ton and a half of tonnage of hay lost, for each acre that was produced. So this gave us the economics of the thing.

Again here, you could sell that pretty easily because they were a little skeptical about treating it, but once you treated it and saw the crop they got, there was no question about it the next year.

So we ran into the trouble with the bee men, especially when we were using the airplanes to spray. And the drift and all, it killed a lot of bees. So we had to work out a system. I called in the bee men and the

alfalfa men, and I had a hard time keeping 'em apart from fighting. They both were mad at me [laughs]. But we finally worked out an agreement where we would divide the valleys in three areas and we would spray one section—move all the bees and spray that section—then move all the bees from the second one, spray that section, and then by that time, see, they could go back into the first area. And then move all the bees from the third section, and spray or treat that.

And the first year, the bee men really were perturbed and they were pretty mad at me. But the thing of it turned out was that it profited both parties so much that they were all willing to do it on the second year, when the second year rolled around. [This was] because when alfalfa weevil hits an alfalfa field, it doesn't allow it to develop flowers and a good bloom and there was no honey flow. So they got no production from the alfalfa field. When you treated the fields for weevil, you not only killed the weevil but you killed the aphids, and you killed the thrips, which were the ones that caused the flowers to drop, and you killed leaf hoppers, and a lot of insects. You cleared the fields up of all insects, so the alfalfa was healthy and it produced a very good blossom and a large or a heavy flow of nectar. And this increased the production, the honey production, very greatly. So it profited all people to all users, both bee men and the alfalfa men, to a great degree.

We used the same hydrocarbons and in treatment of potato patches too. Not only sometimes for the control of grasshoppers, but mostly for the control of leaf hoppers. They stung the plant and they would kill a certain portion of the leaf. And I don't know how much—I never could prove exactly how much production we raised by treating the potatoes, but I think that if we considered the leaf surface, that many times, ten or

twenty percent of the leaf surface was killed by the leaf hoppers, and that it's almost safe to assume that there was a considerable amount of increase in the potato production, in the tuber production. We found it very effective in increasing the production.

Wow, we noticed when the kill is made on adult weevil, in early spring treatment, we killed the adult weevil. Oh, incidentally, the treatment for alfalfa weevil was early spring treatment, You started in February, when the first weather warmed up and the adults came out. You treated the ground and then you didn't have to run over the crops or anything later, and it was very effective, most effective in that area. And when the hydrocarbons kill a weevil or any insect, there's a very characteristic pose that they assume when they're dead. I recognized that right away, but we didn't recognize that weevil—and I presume other insects, such as the fly—built up very much of a resistance. We had to use more, heavier quantities and heavier doses on the fields and they weren't quite as effective. Later, it came out that they had developed a strain that was very resistant. Of course, by that time the testing of the crops indicated that we left a residue in the fields and eventually, the hydrocarbons were eliminated entirely from use in the fields for control of insects, particularly the alfalfa weevil. And they went to parathion and other products that were not as effective—they were, well, they're not as good, anyhow, they were still effective, but not as good.

THE FARM BUREAU

I think you probably have quite a bit of information on the Farm Bureau, and its organization and functions that it performs in the state. But just to kind of review that a little bit, I think that the Farm Bureau was

first organized in 1917 or 1918. It started in western Nevada, if I remember right. Of course, a leading light in that whole drive was Florence Bovett, their secretary for many, many years. Director Cecil W. Creel played a part in it, and Thomas E. Buckman was very important. And one of the very important people that helped set it up and gave it some of its character was Mr. Yeager from Lyon County. Then, of course, it passed on to other people. But Mrs. Bovett stayed with it for quite awhile. They were a quasi-state organization and they lent the layman's help and wisdom to the Extension Service. They worked with the College of Agriculture and they were so recognized. And in my estimate, in my opinion, it was a very good relationship. Sometimes I think it may have been a little bit tiresome to some of the younger agents and to myself and all the rest of 'em when we had to work with older people, had to look at their views and discuss their problems with them, but they were probably just a little bit not pleased with the agents that went in there, because they kind of looked at 'em as intruders, you know, and we were more or less supposed to carry out their—. They set the policy we were to help them set the policy.

When they started out, there was a tremendous number of little community meetings, community organizations. In a valley, probably there might have been three or four centers—what they call centers—and they were quite small. And the reason for that was that when they started out, of course, in 1917 and '18, transportation was a problem and they had to stay pretty close to home, where they could—.

They generally met about once a month and then they had a board of directors for the county and who generally met once a month. And they approved the budgets for

the Extension Service and they approved of the expenditures. The Extension Service generally were the ones that wrote the program of work, but it was approved by the board of directors. And they generally had an annual meeting which was—well, as I look back on it, it was very well attended. They had speakers from the University or from other groups or government agencies or outside speakers. And they had generally a day of it, with a dinner.

This was a very good method of getting acquainted. It included the whole family. And they pushed [4-H] Club work. Their principal interest in the early days was roads, telephones, community telephone lines, electricity provided for the communities when electricity was coming in, and general development of the irrigation projects, and development projects this kind that they could help. And they were very, very useful. I found 'em very useful.

Of course, later, there were other organizations that were organized, some of 'em were kind of offshoots from the Farm Bureau. Among them, of course, was the conservation districts, Soil Conservation Districts. They helped organize the AAA committees, they helped the state Department of Agriculture in putting over livestock problems, such as, brucellosis control—well, diseases, livestock diseases; they helped quite a bit in getting those organized. We would use the organization for meetings for the people that were interested in a particular programs to present it to the people. I thought it a very good organization.

But as I think we mentioned it before, in 1947, there was the division in the thought of how the Extension Service should be tied to the colleges or should be a federal agency. By that time, the conservation districts, Soil Conservation Districts were organized, and it was forced by the conservation people, to a

point where it was necessary to separate the Farm Bureau from the Extension Service. This was done through a legislators' act, in 1947, by the legislature in 1947. Their friendship has remained right on down through the years.

Probably, there's been some loss of communication and different angles have little bit developed, but there has been some—. It's still rather, I think, with especially with the older agents, there's still a pretty close tie between the Farm Bureau and Extension Service.

You asked me about why the split between the Farm Bureau and Extension Service came about and what were some of the conflicts that brought this on. As I mentioned just previously, there was a general movement of federal agencies coming in stronger and stronger. They came in strong because of the general view of the—actually goes back to Franklin D. Roosevelt's administration, which stressed federal aid down to the lowest level. And this turned to conservation of water, land resources. And the funds were provided federally for these agencies, and naturally, when the conservation districts were organized, they were in effect very similar to the Farm Bureaus. Their purpose, you see, it was for dissemination of information, for making it possible to work with the people. And when you have the Soil Conservation agents, they acted somewhat like the agriculture agents representing the Extension Service in the University. So there was bound to be some conflict of interest there.

And this developed to a pretty high degree during the '40's, in which there was the federal people and those that believed in federal aid and federal programs that were in opposition to the local concept of local government and local direction of programs. So this reflected, of course, in the personalities. And the agents were badly out-numbered. We had a little bit

edge in what we had, I think, a little bit closer attention to the people, and were closer to the legislature and to the state, and we managed to hold our own in this fight—it was rather brutal at times.

I think that what I just said kind of gives a rough background of why the division was made between the Farm Bureau and the Extension Service. It was kind of an unfortunate thing, because a lot of good things happened from that association; probably the best one was the acquisition of the 4-H Club camp at Lake Tahoe, which was acquired by the Farm Bureau, actually, but it was carried on the tax rolls of each county. Each year, there was an assessment made on the budget of the Extension Service in each county, and we approved the bill and it was sent in and it was paid for. If I remember right, they bought the property originally for about \$34,000, the original piece of property, then added another two or three acres down on the beach, for about thirty-seven or thirty-eight hundred dollars. So in total, it was under \$40,000 they paid for the 4-H Club camp. Then they brought in Tom Buckman, who was responsible for being in that youth program that they had, and they built some of the buildings there. So this was the outstanding project, I think, that resulted from that association. That investment has yielded well in the lives of many young people. It gave them a pleasure of enjoying the camp. And it was also very financially advantageous to the county and to the University, and to the state.

PROFESSIONAL ORGANIZATIONS

The Nevada Association of County [Extension] Agents was in existence in 1934, when I came here. And due to the fact that they were so scattered, and so few agents, [it]

was very hard to get together; it was not a very active organization, except that we did discuss, we did have meetings, generally at a conference, annual conference. The Dean would set aside a half day or so. As I say, we weren't too awfully active because of the low numbers. I did serve as president of that, I think for two years, at which time we didn't accomplish a great deal. Later, it became more active and a larger number of agents were able to participate. And transportation became a little bit more available, so it has become quite active.

We joined the National Association of County Agents previous to my time. I served as a delegate on two or three occasions. I actually attended meetings in Chicago, one in Salt Lake, one in Denver, one in Houston, and one in Seattle, I guess. I thoroughly enjoyed 'em. The National Association was very active in promoting Extension work and the welfare of its members. There was a homemakers [section], home economists; they belonged to the County Agents Association.

The Epsilon Sigma Phi was organized largely through Creel's efforts. You had to be in Extension work ten years. It wasn't so active in the field; we met generally once a year, is about all we met. And they were primarily interested in national affairs and welfare of Extension people. This included a lot of people, not only agents, but women agents and directors and a lot of people. And I served as president of that, also. And again, the Nevada chapter being small, it was not exceptionally effective, but they are still in existence and they still do meet. I'm a member, an honorary member (whatever they call it), of both organizations yet. And I do attend their meetings, annual meetings.

The National Association of County Agents had a lot to do with getting the agents recognized as federal workers, which

permitted us to get into the federal retirement system. I might just speak about retirement systems. Now, practically every young person that goes to work looks at the long term and decides what's going to be a safe way for his older age. But when I went to work in 1934, there was no state pension, there was no federal pension of any kind. And I just being young, didn't worry about it. But I was fortunate that when first the pension plan accepted the County Agents as federal employees, we immediately went into the federal system. We had some money to pay back to bring our status up to the present and then we paid on a monthly basis. And then in, I think 1947 is when the state retirement came in. This is when a vote by all the employees of an institution or a department was required and the majority rules. And when the University faculty decided to go in, why, we voted to go in; I automatically became a member of the state retirement system, which is very fortunate for me. It was quite expensive for quite a little while, but it has since paid off, very handsomely. Since I can, now I receive two retirements. As I understand now, it's not possible to do that any more; the law was changed. But I came in on the grandfather clause; there's a few of the older agents that have retired on that and some that will retire under that.

In all these organizations, they had programs which helped you professionally. They had seminars and meetings, and they encouraged a lot to get additional degrees and keep up with the new developments and new methods. We did offer some scholarships—both organizations—for younger people.

We didn't have enough money, actually, in the County Agents Association to send delegates to national conventions. On one or two occasions, we were permitted to use the car to attend 'em when it was close by, but we had to put in our own gas and expense. In

the later years, the Association did provide a small amount to attend that, so that we could come back and report on their activities and program. But in most of the cases, why, I had to stand the expense myself. We used it as kind of a vacation. On some of 'em , I took my wife after we were married and others, why, I went on my own, of course.

The National Association of County Agents each year recognized, I think it was two percent, I guess it was, of the agents that had done outstanding work. Since we didn't have very many agents, I think they allowed us one per year, and I think now it's reduced to one every two years. I received the distinguished service award, I think it was in 1954 or 55— '55, I believe. I think it was done because of the drainage and irrigation work that I had done, water work that I had done in Lyon County. They also considered other things that I'd done. I had good outstanding club work. I did receive one from the 4-H Club agents for outstanding club work. I received that in 1965 or '6; I went to Washington, D. C. when they were having their meeting and I received it there. And that was for previous work that I had done, mostly in Washoe County. I think Ray Cox turned me in for that, helped me get that.

I compared notes at those meetings where I received those awards, with some of the others that had received them. I think that I rated fairly good with the rest of 'em . There's been a number of other agents that have received 'em , and all of 'em generally following a particularly good year, a good two or three years of having accomplished some outstanding feature in Extension work.

SUMMARY OF A CAREER IN AGRICULTURAL EXTENSION

I enjoyed my career as Extension Agent very much. And I think probably it was because it was the changing times. I went in in 1934, there had been a depression on; the depression was still on. And the method of operation all out big and little outfits, livestock outfits, were in tough financial shape. A lot of 'em were caving in from lack of finances. Some of the old timers were dying off.

The operations, the management of the range, public ranges, was changing, and there was a big shuffle all over the state in the ownership of cattle and operations; it was a great shuffle going on there. For example, the sheep that were being driven north and south and east and west and using the public domain were eased out through two means; that is, the financial end of it and the government regulations. And then the new equipment was coming out from the horse buggy, as it were, up to the modern equipment. And this was a rapid change, and it is still changing, but it was a very rapid change in there.

Marketing, the way of marketing, has been changed greatly, the different products

that were produced. I think we mentioned before that we've lost whole industries, practically; poultry's gone, and turkeys are gone, and vegetable production is practically gone, and we've cut down on potatoes, and have gone over to almost a complete livestock. And that particular kind of livestock is the cattle. And from the small dairies, into big dairies. We still produce probably as much milk, but we produce it in a much different way. No butterfat being produced at all. So this was quite an exciting time.

Development of roads, construction of roads, which opened up many of the communities, and this is one of the things that the agents worked on. Bringing in of power and telephone lines into communities was an important aspect of the extension work. And this has almost been completed throughout the state. Communities which were isolated suddenly got power and telephone and oiled roads, and so this has changed.

And the land. Tourists, and a lot of people, and recreation. A good example is the Sierra Nevada mountains that used to be a home

for cattle and sheep during the summer are now used almost exclusively for recreation. They've driven the animals out, livestock out. And we thought that the animals probably did some polluting, but I think that when you look at the situation at Lake Tahoe and on the Truckee River (and it will happen on the Carson and Walker also), we really will have a pollution problem. In other words, people are dirtier than animals.

I think now that we'll probably cover the men that made up the Extension Service. I think the Extension Service was started in 1917. [C. A.] Norcross was the first Director and very shortly after he was here (he didn't stay very long), Director Creel, C. W. Creel came in.

Creel was an entomologist. He came from Indiana, and he took over the Extension Service and organized the Farm Bureaus and the war effort, World War I effort to stimulate food production. I didn't go to work until '34, when he had been in office quite some time. I think many people didn't realize, didn't *appreciate*, his ability to get things done. He had good contacts in Washington; he kept those up in good shape. And he was a compromiser, he could manipulate so that he did keep the outfit alive— and sometimes not too thriving, but he did keep it alive. And I think that he deserves a lot of credit for the early-day work that was done. And he held on until in [1942], he ran for senator, and he was beaten. Then he was out for a year or two and then he came back in and remained until he retired.

Tom Buckman was assistant director of Extension, and Tom was the one that was directly responsible for hiring me. Tom started his career in Lyon County in 1921, and he moved to Reno very shortly thereafter and then into the state office. And he kept that, he was assistant director or acting director—I

think about 1957 or '58, he was there for a long time. Eventually, they retired him because of age. But he was a good organizer and he was rather a pusher. He knew the state pretty well. He was a great man for records and writeups on projects. I think that he established the office procedure and reporting throughout the state that was used.

I won't speak of the later directors because most of 'em didn't stay too long, some of 'em had retired from other areas, and were in there for only a few years and they didn't have the impact, I don't think, that those other men—. We now have Dale Bohmont and he's been here quite awhile, I think that he will make an impact on the direction of the Extension Service and the Experiment Station.

The oldest man that I can remember as a county agent was Joe Wilson. He was born in Lyon County and I think his first start was there. I think he came to the University of Nevada. His first start was in Lyon County and for some reason or another he didn't get along too well and they moved him to Elko County as a livestock specialist, agent with a lot of knowledge on livestock. He was a little bit older already when I got to know him and he was still quite active. I don't really know the impact that he made on Elko County with livestock. He worked strictly with livestock people. He died in Elko County of a heart attack, on the job.

In Joe's career when he went up there, these big outfits, they were pretty independent, and I think Joe may have had some problems in changing the method of operation. Because they were established, and this was a way of doing it, and they did it in the horse and buggy days and this was just a change-over, starting the change-over. I imagine that Joe had considerable difficulty in getting new methods and new things done in a different way. In that area, it was strictly range livestock,

cattle and sheep. I don't think he played much of a part in marketing of livestock.

We had another old timer that was known throughout the state for his human characteristics. And that was [Claude Raymond] Mud Townsend. Mud Townsend came from Montana. He came in as a forest ranger and into the Ely area and applied and got the job as county extension agent. Mud was strictly a character. He was known throughout the state. And the stories of the things that he did and how he accomplished it are still being circulated. He was a character to know him. He did things rather in unorthodox ways and yet, I think he was a good agent.

Besides being a county agent, he was a water right engineer; I think he surveyed a lot of the water rights for the people over there and got a lot of water rights established through his efforts. He dabbled in marketing of wool—wool and cattle were his long [suits]. Well, he was very apt at it. He actually was purchasing agent, I think, for some companies, and issued drafts and this kind of thing for certain companies. And this was a period when marketing was very, very hard, when I knew him. There was just no—you couldn't hardly give stuff away. So he played a very important part in that.

Again, as I say, he kind of did it in an unorthodox or unauthorized method, but he got the job done and he was very, very well liked by his clients. He had a great, big territory; he had White Pine and Nye and Esmeralda—and I don't know—Lander and Eureka (I guess) counties. So he used to take a trip around the country and he did a lot of his business, actually, in hotels and in the saloons. This was a favorite meeting place of livestock men, and Mud could hold his own on any of those situations.

He had quite a bit to do with the financial end of it. There was a lot of 'em were going

broke and I think he helped organize the RACC, I think it was, and they were able to get loans and saved a lot of the ranches from going under. Some of 'em, you couldn't save, but uh—. During that particular time, there was a lot of the big companies went under; there was Adams-McGill went under and there was a lot of other big outfits that just broke up and went to pieces.

And there were younger men that were in there building and trying to get ahold of land, livestock, and ranges. Mud was well known. Out through the little Mormon communities, there was very little money and I know, I personally know, that he spent some of his own personal money for buying little kiddies shoes and little clothing for the little kiddies that had to go to school. If he couldn't get it through some governmental agency, I know that he spent some of his own money on it.

He was killed in an automobile accident north of Curry, I think it was, in Elko County. I went to his funeral, and there were men and women there from far away as Denver, Seattle, Portland, San Francisco, Los Angeles that came to his funeral, which speaks very well for the type of character that Mud was.

He kept the state office in a kind of a complete sense of frustration, I think particularly Tom Buckman, who was responsible for the budget. As an example, something happened to his car, and he didn't bother whether they had any money in the budget or not, he went down to the garage and says, "Extension Service, I need a car," and bought it. He had been running it for three or four months before they ever sent in a bill, and when the bill hit the state office why, Tom Buckman was—which laws?— [laughs] to finally—how to get it paid? But it had to be done.

And Tom Buckman put in a regulation that if you didn't have your monthly reports

in, you didn't get your check. So Mud worked around that a little bit, too. He sent wires, first of all, that his report was coming in and he needed his check. And he wrote letters and he telephoned and there was always a—like pulling teeth, I guess, for Tom to get the month's reports. But generally Mud got his checks; I don't know how he did it. But he was always in a little hot water—not really hot water, because everybody liked him. As I say, he was a little unorthodox in his method of operation.

Edward C. Reed was an agent. He graduated from the University of Nevada, had been in World War I, and followed Tom Buckman in Lyon County. He was quite methodical in his operation. And he did a good job. He wasn't actually in Lyon County really long enough to establish himself for some definite piece of work that was done. What we're trying to do here is identify each agent with some particular work that he had done, did an outstanding job on it. So, Ed moved into Washoe County when Tom moved from Washoe County to the state office. And Ed was a good worker here. I think probably his outstanding piece of work was the organization of the Washoe Conservancy District, which was responsible for actually the building of Boca Dam. He was very influential in organizing that, bringing that into a successful conclusion. He was quite interested in dairying, and at that time, poultry was an important project in Washoe County.

When I came into the office here, I went through some of the records. As far as I can determine, there was about probably 175,000 laying hens here in Washoe County, which was a tremendous number of hens, laying hens. They actually shipped eggs out of here. And he organized a cooperative, he helped with the cooperatives, the Farmers Exchange.

I think he was largely responsible for that. And eventually, in either '34 or '35, he moved out of the office as Extension Agent and went in as a secretary, manager, or whatever you want to call it, of the ASC—a federal job. And he was in that until his retirement, some twenty years or so later.

Now, I'll take the other ones that came along there. There Was Otto Schulz, followed Ed Reed, I think, in Lyon County. And Otto was born in Carson, close to Carson City and attended the University of Nevada. His first job, I think, was in Ely under Mud Townsend. Otto was an agronomist, he was particularly interested in crops. He did some good work in the short time he was in White Pine County, with the farmers and ranchers around Lund on marketing of potatoes and growing of potatoes. He must have had quite a bit of influence on introducing crops.

But he wasn't there too long; they finally moved into Lyon County. And he hit Lyon County when things were about as poor financially as you could have 'em. And the district there had defaulted on their indebtedness, and farmers and ranchers had no money, and Otto hit that situation and did a lot of work with Farm Bureau, did a lot of work through Farm Bureau. But he helped. I think his greatest contribution probably was helping with the reorganization of the irrigation district. He played a very important part in that. He helped with the very early 3-C camps [CCC] that did some work on the irrigation districts there, and was quite successful. The turkey growers were one of his pet projects, and he helped organize it and get that plant going. Otto was quite methodical in his approach to the projects. And he helped organize, I think, the honey growers. He was very active in that. Eventually, he went to Oregon as a Farm Bureau organizer for one year and when he returned, he didn't go

back to county agenting; he was put in a state office. And I think he worked with the Soil Conservation—State Conservationist, I think he was, for the state. And he then was very active in promoting conservation programs and 3-C camps and this type of thing. He worked in practically all the counties in the state, thought, on that particular job. Then he eventually became an agronomist, extension agronomist; his big interest was in agronomy.

Now, probably the king pin of 'em all was in, I think the earliest one, and probably was in the longest, was J. H. Wittwer. He was born in Washington County, Utah, and I think he went to the University of Utah. And he worked in Cache County, Utah for some time, for a year or two and eventually was offered the job in Las Vegas for Clark County and Lincoln County. He had been raised down on the Virgin River, Bunkerville. I talked to him many years later and they actually tried to grow some cotton down there. And they did grow some cotton down there, and he talks about cotton picking. He had it tough to begin with, but he worked himself up and finally went to school and came back as a County Agent. He was a member of the Mormon church and he was one man that lived the true teachings of the church. He was kind, and moderate in all things, and he was a hard worker.

When I met him in 1934, he gave me good guidance, he was like a father to me. He gave me a lot of good advice and I kept in close contact. He's still alive. He's, I think about 92 years old now, and he's still active, and he's interested in farming in Clark County. I think probably that I mentioned it before that the start of the flood control program in the state of Nevada happened on the twenty-fifth of September, 1925, when John Wittwer went across the Muddy River between Glendale and Overton, and found himself confronted

with a flood coming down the stream. He followed it up to Meadow Valley Wash, clear up to Pine and Mathews Canyon and above Caliente and Panaca. He was the one that coaxed the county commissioners to get a survey by Molly Malone of possible dam sites on the Meadow Valley Wash. They were known as the "King and Malone reports." When the early work was done, they always dug the King and Malone reports out; they actually weren't very much, except that they says, "Here's a possible site and a dam placed here would do this, that and the other, and control floods." As a result, Pine and Mathews Canyon dams were built. The Delmue Dam was not built because the railroad happened to go over the dam site there. We worked at it for a long time, but they now have Echo Lake which is just above the Delmue Dam and it is serving as a recreation area and it does serve for flood control.

John Wittwer was—that was his main purpose actually, in his career. He worked on flood control plans for Las Vegas Valley, for the Moapa Valley, for the Meadow Valley Wash, the Virgin River, and that whole southern end of the state. He was a very good organizer and he was very happy focusing public attention to projects that were needed. He organized a lot of public meetings and had speakers in from the outside. This was a tough period in which to attract public attention, 'cause the people were not ecology-oriented and the area hadn't really grown, but it was just starting to grow. Hoover Dam was being built and the complexion of the country was not quite changed from what it had been to what it is now. Vegas was just a small city of about 2,000 people, and when he started there, Hoover Dam wasn't in and of course, Boulder City wasn't there, Henderson wasn't there. The industry was limited, very limited. There was a little mining, but I think he had a

vision there that we control water and floods. He mentioned flood control, but actually, I think it was a little wider; he had a little wider interest in use of water.

He was responsible for the construction of the Bowman reservoir in Moapa Valley by the 3-C camp and many other projects. He worked on the Charleston campgrounds. So he was quite influential in the early work that was done, and the general trend that the Extension Service took on that particular part of the country. He was always interested in—they produced a lot of spring vegetables; onions and tomato plants and this kind of thing. They organized several cooperatives there; none of 'em were too successful. He was interested in dairy, and they organized a dairy cooperative there and it was—oh, to a degree, it was successful.

The biggest thing that they tried to organize there was the—I think we've mentioned it—the Southern Nevada Meat and Provisions Company, I think it was called. This is a cooperative; it lasted five or six years but first of all, the need was not there as much as it appeared, and second, management and finances. Then the situation was just not right to be successful. They came out of it all right by selling land that they acquired. I think that everybody got paid off, but it was just not that kind of a situation. The production, the basic production, was not there, and the changes, slaughtering and handling of livestock—a big change was happening at that time. And nobody could foresee, actually. The feedlot operations had not begun. And there was no feedlot in the area, and no feed. It was hard to have a slaughter plant where you didn't have any basic raw materials to actually put together so that you have a successful feed operation and successful slaughtering plant.

I don't know if you'd call John a simple man or a complex man. After he retired from

Extension Service, he went to school, went to college again. He took up painting and he became a pretty fair artist. He took up writing; English for writing. He's been trying to write a book of some kind, but I don't know as he'll ever get it finished. But he was trying it. And he was writing some history and some books. And he got some pretty good etchings and pretty fair water color work. So he had quite a few talents.

The thing that I learned, something from him that I'll never forget; that's road maps. In those days, road maps weren't quite as available, and there wasn't quite as many roads, either. So when you went out somewheres in the country and you had to find somebody why, the simple thing was to take a piece of paper and draw a map and then draw a road and then put in the visible signs that you could see, the outstanding features, and then finally pinpoint it down to where you wanted to go. And this was his specialty. I learned that from him and I still use the same method of sending people out; just draw a map for 'em .

One of the old timers that's been on quite a while, went on in 1929, I think it was, was Mark Menke. I went to school with him for a year or two. He, of course, came from a very prominent family in the Reno here. And his specialty, of course, was agronomy. They moved him into Elko County in 1929, and he's retired there, after about thirty-five years. Mark was a good agronomist. He wrote several bulletins for 4-H and for the area. And he covered shrubs, trees, grasses; and this was before there were a lot of specialists. And he did an exceptional job; some of em are still good references.

And I think that he had quite a bit of influence in changing some of the agriculture in Elko County. That area's cold and it's a grass country and it's cattle country. I don't

think he got into any big land developments or anything of this kind, but I think that the planting of grasses and alfalfa, this kind of thing, I think he made quite a little contribution in that area.

He loved flowers, and glads were his specialty. He worked with the garden clubs in Elko. He was one of the early (I might say early) urban area workers actually in that area. He was a good club agent also. He was used as a judge and he helped with the Elko County fair; he did a lot of work on that. He's still doing work on that, I think. He's retired in Elko.

I'm not sure who the first agent in Washoe County is, but I know that Clarence Thornton was one of the early agents. He didn't stay here too many years; I think five or six years probably was his term of office here. But there again, he preceded Ed Reed. He was particularly interested in poultry and he was one of the big poultry producers and pushers in this area. He started the organization of the Washoe County Conservancy District, which built Boca reservoir. He apparently did a lot of work through the Farm Bureau. And he was tied in, of course, with the county commissioners. I think Jim Peckham played a very prominent part in there. Peckham, and [Ernest] Brooks, I think, was important in that. I don't know who the attorneys were, but they used attorneys. The job was actually finished by Reed. I think it was started by Clarence Thornton.

His other big thing was fairs. And he eventually went over into management of the Nevada State Fair at Fallon; he managed it for years. And then he managed the Washoe County Fair, organized that. This was his big hand in doing these kind of things. He liked to do that.

Then he was followed by Elwood Boerlin. Elwood Boerlin went to work under him, I

think, about 1930 or thereabouts, '30 or '31. And he was assistant agent under Ed Reed, then when Ed Reed went up to the state office as ASC secretary, he assumed the role of county agent. He was here for some time, I think about five or six years is about what he did. And I think his long suit was club work, in which he had a good club program going.

He did some range work. That was the time they were developing wells and getting some check on the production, range production. We established with the Bureau of Land Management, I think, some check plots that are still—I think they're still in existence, some of 'em. I don't know much they've used 'em to try to determine the livestock use of the range, the destruction of it, and so on and so forth.

They administered a lot of the relief program, as it were. They passed out grain and surplus food and surplus commodities, through the WPA and this kind of thing. I think that he did a lot of that.

His assistant agent in turn was Archie Albright, who was here for quite some little time. He came on, I think he must have come on about 1936 or '37, somewhere in there, and he stayed until 1954, when I came. I replaced Archie. He didn't stay—wasn't quite that long; he must have come on about '41 or '42, in there somewhere. I moved to Yerington and he was already here in '43.

He was very good at club work and good public relations man. He started writing columns and this kind of thing for the paper; had to do quite a bit of publicity for the paper. He and Boerlin together were very much responsible for the Nevada junior livestock show. They first started out to show livestock at the stockyards in San Francisco. They got the idea and they carried it on and organized eventually—I think this was organized in '41. I think the first Nevada State livestock show

was held at the fairgrounds. Elwood Boerlin moved to Sacramento, and Archie quit in 1954 to go into private business with Albers; I replaced him.

Archie Albright was in private business for quite a few years and eventually, about the mid '60's, he came back to the Extension Service. They moved him to central Nevada as a resource specialist. And he's still there.

I think probably we ought to talk about some of the women that played a part in Extension work. There were some notable women, I think, that were outstanding.

First of 'em was Mary Stilwell Buol, director of home economics for many years. She came from Arizona; her folks established in Phoenix. She came to work for the Extension Service here, about 1920, somewheres thereabouts. Food and nutrition was her long suit. She traveled throughout the state, actually made lots of meetings, Farm Bureau meetings, and helped organize clubs all over the state.

The home agents staff was very small and transportation was very difficult. Means of communication was very limited. So it was a hard, hard work to go out and put out a little bit of information. We didn't have the bulletins that they have now, the materials. We didn't have the way of reproducing them at the local level. We had the old mimeograph, and this kind of thing, but none of the modern office equipment; that made it very difficult. The mail was slow, telephone communications were in some cases nonexistent. So you had to set up dates a long time in advance. Then you travel over this whole state here, why, you're just lucky they got any of the information at all.

They had home agents here in Reno and they had one for quite awhile in Ely and quite awhile in Elko. They had 'em sporadically in Las Vegas and they had 'em sporadically in other areas, but there were not too many

of 'em —there were only four or five of 'em , covered the whole state, which was spreading pretty thin.

I think [Mrs. Buol was] one of the outstanding—she did outstanding work until she died here in Reno.

They preceded the public health work that is being done in the schools now. I can remember well that even when I was in school, they used to come and weigh us and check our eyes and teeth and ears. They didn't do very much about it, but they did recommend it and bring attention. If they found a youngster had a bad eye, at least he got that little checking. This was even carried on when I went to Pioche, I carried it on, and up until about '37 and '38, when the public health nurse moved in. And charts were kept. This preceded the public health by many, many years.

And we got out to many of the little rural schools that they'd never get to a doctor, or some of the teachers didn't know how to do this. We ran into a lot of youngsters that had problems with their eyes or problems with their ears. You ran into a lot of nutritional problems. You couldn't do very much about 'em , but you could again, [give] Mrs. Buol's formula of milk and vegetables, green vegetables and plenty of milk. They preached having cows and raising a garden. And this was nutritional, very good. I don't know as the modern one is any more effective with the modern civilization [laughs] that we have than it was in those days, when we had we didn't have the modern things. They could do a lot of that stuff themselves. They taught canning and drying and preservation of foods. This was very important, you see, not only because of the low income, but also for health reasons.

One of the other contributors to the development of our urban areas in Nevada was Mrs. Florence Bovett. And she was, of

course, the secretary-treasurer of the Farm Bureau for many years. She attended all the meetings, annual meetings (or practically all of 'em), throughout the state, and was very well thought of by the people.

I often think of both Mrs. Buol and Mrs. Bovett, when I came on the job as late even as '34, when conditions and cars were a little better and roads were somewhat better; but I think of the difficulties of traveling and communicating that those women put up with. I can remember driving down in Clark and Lincoln counties and Nye County where the temperature was up over a hundred degrees, and there was no air conditioning in cars. And the dust; the roads were rough and the dust was thick and the accommodations that you got in some of those smaller communities were not of the best. They generally had pretty fair food, but the accommodations were just not too good. And they spent a lot of time out. I as a young agent didn't mind it; I had a lot of vim and vigor in those days and made the rounds. But I can think with those women, it must have been very uncomfortable for 'em . They really put in some tough days. They made, I think, a real contribution.

Before my time, actually, they traveled a lot by train. And you can imagine from here to Las Vegas, for example, going either by way of Salt Lake—from Reno to Salt Lake, from Salt Lake to Caliente and then being picked up with the car and transported around that area, and then going out to Las Vegas probably, and being transported in that area, and then going on to Los Angeles and up the coast and back into Reno; this was more less the way they did it. And this took a long, long time to get around. It really must have been a little bit tough. And most of the other communities didn't have train service, you see, so they had to use cars.

The roads—in the early days, there was just trails; actually, they'd be good jeep trails now. You see, actually Highway 80 now that we have east, I can remember it being built—I think about 1924—from here to Wadsworth. It was gravel in those days. And oftentimes you had washouts. John Wittwer has told me many times that when they came up from Clark and Lincoln counties, they'd figure on camping one or two nights, probably two nights, to make it. They'd bring their bedrolls and food and what-have-you, and drive as far as they could to some spring or some little creek, camp overnight, and eventually come into Reno for club activities.

Cars weren't as good as they are now; they were probably more sturdy, but they weren't near as fast. They were easy to repair and they generally found somebody to repair 'em . Tires were a problem; you always had flats and blowouts, and it was when you patched and you pumped 'em up by hand. This was quite a little chore to move kids and people around. You spent a lot of time just doing the physical things that we think of so easy now.

Naturally, you didn't get very much advice or counsel from your state office because there just was no way of communicating. You were representing the Extension Service and the University; your role was different. You couldn't pass the buck. When they asked you a question, you answered it as best you could and hoped that it was right, because, immediately, you were an employee of the University and an employee of the Extension Service, and your actions and your answers reflected directly on the whole outfit.

We'll cover a few more of the ladies that played a part in the Extension Service. One of 'em , of course, is Miss [Gertrude] Hayes, who was Extension agent in Washoe County for some thirty years. She came from Missouri and she had taught back there, and I think

had been in Extension Service probably. She started here, I think about 1928 or '29 or thereabouts, and she played a very important role in the development of extension programs in Washoe County.

She went through the depression where they handed out surplus commodities, where the club work was rolling already, but it was on a rather limited scale. And of course, the population wasn't large here, it was still rural, actually, [in] Reno, and they worked strictly rural. And she stayed on all those years. Finally in 1954, when I came here, it was quite an urban area, we did go into the urban population and started organizing clubs immediately, right in the city of Reno. Some of the leaders, who had been farm women, had moved into town and this helped considerably. There were a lot of very good leaders and beautiful people that helped in the program. We still ran the program on a rather low key; project clubs with the agent playing the principal role. And she did a lot of nutritional work in Reno. She was a very good agent and a very kind person.

Mrs. Tremune from Elko County, Helen Tremune from Elko County, was employed at the time that I came to work. And she did a lot of work in Elko County. I don't know too much about her work. She had gone up there as a young lady and married one of the ranchers there, I think. She died some years later when I was still on the job, of cancer.

And then there was Mrs. Berry down at Fallon, that was an agent at Fallon for a long time. She carried on much the same kind of program that Miss Hayes had. And, of course, Fallon was more rural and much the same type of program.

Helen Gillette, when I met her, was agent stationed in Ely. And later she moved down to Las Vegas, and still later over here to Reno. And [she] worked in Gardnerville and Lyon County.

All of 'em stayed on the job for many, many years, and they ran into all the problems of transportation and driving cars over rough roads and no communications and no illustrative material, all that type of thing. But they were very versatile. They had to do nutrition and clothing and the whole bit because, again, there was the limited supply; we had quite limited funds to cover such a large area.

The budget matters were always a problem. I kind of admired Creel because he was able to jockey 'em around. Sometimes he'd be short on funds, but he managed to jockey 'em around, move the agents; sometimes the agents had to be moved. There was neither county support or state support and he had to use federal funds, and you had to move 'em around. They moved the agents, the women agents, I think. Well, Helen Gillette was one that moved a lot. There's another agent in there, [Hazel] Zimmerman—she was a good friend of ours. She worked here in Washoe County before Miss Hayes, when Thornton was here. She went up Alaska and put in quite a little career in Alaska; she came back and told quite a few stories about Alaska, which was even more primitive and more difficult than Nevada. Part of the climatic conditions got so tough that she had to move back. Creel put her on here and she worked with me in Lyon County. I liked her very much. She eventually wound up in Las Vegas and died down in Las Vegas, of cancer. She was an old maid. She had a very good faculty of organizing. She'd go into a community and pick out the leaders and set up a program very rapidly and very efficiently. She outlined it and was very good at that, excellent. I ran into her when she came back. I knew her before she went to Alaska, but when she came back she was a little bit past her prime, a little bit older

woman. But she still had a lot of energy and go, and I enjoyed working with her.

There was another—I can't remember her for the life of me—worked up in Clark and Lincoln counties. John Wittwer liked her very much. I didn't know her, I just did not know her, but she contributed a lot to that area.

We had a lot of 'em come in and out. Margaret Griffin was an extension agent or the home agents leader for a few years. None of 'em, I don't think, stayed on for a period of time that their imprint was left on the work. Most of 'em just didn't stay that long. Then there was rapid changes.

We missed some men agents. Some of 'em are still on the force. There's Charlie York that, of course, came from Fallon, graduated from the University of Nevada, went to school teaching over in Lund, and eventually wound up as a county agent in Fallon, about 1943 or '44, thereabouts. I think that he's been a good agent, he's been interested, [has a] wide range of interests, I think probably crops and insect control. You see, by this time, these later agents had a little different type of role—he was insect control, DDT, use of DDT, parathion, and this kind of thing, hydrocarbons.

Then there's Fred Batchelder, who was a 4-H youngster in Lyon County under Otto Schulz. Otto stimulated his interest in extension work. [He] actually came to the University of Nevada and finally wound up as a county agent. He served three or four years in the Army, and he came to visit me when I was in Lyon County in Yerington and asked me about what I thought, how he would do. I had known him but I hadn't known him very well; I like him very much. He looked like a bright young fellow. He took the job down in Tonopah and then moved up to Lovelock, and worked there for a number of years and then in '54, when I moved out of

Lyon County, he moved into Lyon County and retired just this year, 1973, the first of 1973. He was a good agent. I think his outstanding work was putting in the water line, domestic water line in Lovelock, to the Lower Valley. Water was bad there and this had been tried for quite a number of times and hadn't succeeded, and he finally managed to raise the money and actually supervised the installation of the line down to the Lower Valley. His interest primarily was in agronomy; he liked to put out plots and crops and this kind of thing.

The other one's Kirk Day, who's presently in Winnemucca, been on the job for quite a few years; he's getting ready to retire. He was born and raised in Sparks and attended the University of Nevada. He served a stretch in the Air Force, came back, and was the ASC man in Winnemucca. And when Paul Maloney retired, he went in as agent. His interest is quite varied. I think probably his outstanding work is helping to develop the new areas on the Quinn River and Orovida area. He's worked with livestock, but I think that his principal interests probably were in development of those areas.

Paul Maloney, I haven't mentioned; he was an outstanding agent. He's from Tennessee, served in the Army, went to school here, and eventually wound up as a county agent in Humboldt County, in Winnemucca. He was a very hard worker and very devoted to the Extension Service. He gave a lot of personal service; I think probably he gave more personal service to the ranchers and farmers up there than any agent anywhere in the state. He tended to their needs. If they needed men, they'd call up Paul Maloney, "Hire me a man." And if they needed materials and if they needed— whatever it was—Paul Maloney was the central point of contact [laughs]. And the hours were never too long

for him to actually serve those farmers. He specialized in personal service.

He'd never taken a vacation and the ranchers and farmers in that area one year raised \$300 and told him it was his, providing he and his wife took a vacation, otherwise they wouldn't give it to him. So they sent him on a vacation, which was quite a compliment, I think, for the service that he'd given all these years. He eventually became livestock specialist at the University. He retired after thirty years of service and wound up in Las Vegas, some fifteen, sixteen years ago, as a realtor and made a considerable amount of money as a realtor there, selling houses.

There's another agent that is still active and that is Ferron Bunker in Las Vegas. He's from Bunkerville and came to the University of Nevada and wound up teaching; I think he taught at Lovelock, and then was offered a position in Lincoln County. He stayed there for eight or ten years and then finally moved into Clark County. I think probably his church work and his civic work probably fitted him pretty well for the type of activity that is carried on in Las Vegas; it's strictly urban. I think that he had done a pretty good job of following through this type of extension work. I wouldn't say that it was exactly agricultural; it's more public relations and actually urban in much of its nature.

The other agent that I haven't mentioned was Ed Recanzone. He came out of Paradise Valley and went to School here. And I think he graduated in about 1933, I think it was. He went to work in 1934, one month before I did in Lyon County. He worked under Otto Schulz, and when Otto Schulz went to Oregon, he became agent there. He was pretty active in club work; I think his long suit was club work. And eventually he decided that in 1943, he wanted to become a dairyman and then he resigned and went into the dairy

business as a distributor there, producer distributor. And I replaced him there. He wasn't actually there—well, he was there from 1934 until about 1943, so he wasn't really an old-timer at it.

There's several others. Wilbur Stodieck in Douglas County was there from about 1929 to—I don't know, about eight or ten years. He was a good agent. His club work, I think, was probably one of his long suits.

And then there was Lee Hensen, who I think followed Wilbur Stodieck. He started his career—he's from Yerington. Came to school here at the University and wound up in Ely as assistant agent for awhile and then finally wound up in Minden as a county agent. He was a good organizer and club worker, particularly. Dairying, I think, was kind of his long suit. He eventually became so interested that he decided he'd go into managing the Minden Creamery, which was a cooperative. He lasted about two or three years. Eventually, he resigned, and became an agent in Oregon, and he eventually moved to Hawaii and retired, I think in 1971. As an agent in Hawaii, he worked on two or three islands there. I don't know exactly how his work was elsewhere, but it was satisfactory here with the club work. We may have missed some; I don't know how many others there were.

One was Al Reed, who was agent for many years in Lovelock. Al Reed came from Davis, California. He was in the Army, I guess, and when he returned as a veteran, he came to the University here and played football. Eventually, he was sent down to Fallon for a short period of time and then moved to Lovelock. Al actually went in in, I think, about '22 or '23, thereabouts. And it was the time when apparently the big outfits, John G. Taylor and many of the other big outfits, were still active but had received a

kind of a severe jolt, financially. And he told me many times about the enormous numbers of purebred bucks and bulls and so on and so forth they imported into the area and used 'em to upgrade their native livestock. And he was there also the period when the drought of 1924 and subsequently up until the '30's, when Lovelock Valley looked pretty tough. Much of that area was not only short of water and had had a financial set-back also, but it was kind of disorganized. I think that he played a very important part in organizing and getting the irrigation district built there and in helping to organize; that is, in actually getting the Bureau of Reclamation to build the Rye Patch reservoir. When you look at it now, that was a very important addition to the water-saving and agricultural facilities that we have in the western part of the state.

They had other problems, salt problems, and other problems, and he was there through most of that. They made surveys of how to eliminate some of the salt problems. Eventually, the irrigation district built quite a series of drainage ditches and canals that greatly improved the land there. As the new people moved in with new finances, additional water, a better water supply, and changing in crops and livestock management, Lovelock has become one of the important agricultural production areas of the state.

Al Reed was always interested in 4-H, and he was one of the early movers in getting a campsite at Tahoe. He retired about ten years ago, and is still residing in Fallon.

We were talking about the function that a county agricultural agent performed in his county. In 1934 when I went in, and previous to that time, the agent was practically the Department of Agriculture. He was given certain guidelines, but we worked on all kinds of projects. It was a kind of a family approach; with the home agents it was a family approach.

The women worked in nutrition and clothing and housing and introduction of new kitchen hardware. Many places didn't have electric lights, electric power, so all these things were coming in, new methods of preparing food and all that. The experiment station had developed some new varieties of crops, methods of fertilizer use, and all these things, but they weren't out in general use yet.

We were in a period when the automobile was coming in and machinery and equipment was changing. We changed from the horse and buggy and the horse-drawn equipment to mechanized equipment. We went into use of fertilizers, heavy use of fertilizers. We went into use of insecticides. There was very limited insecticidal use when I started in; in fact, we had bluestone, and we had lime sulfur, and we had arsenic, and that was it, about, for control of insects. And in the control of weeds, we had nothing but cultural methods and all of a sudden, here comes all these new things. So going in before that time, you see, the field was much wider.

We also didn't have all the agencies. And when I went in, we had the Forest Service, and they were pretty well limited. Their duties were pretty well established. They've changed somewhat, but they're still more or less the same. But we had no Soil Conservation Service, we even had no ASC. The environmental impact and the environmental problems weren't here yet. The Bureau of Reclamation was already in, and, of course, active and quite old, but they hadn't completed the height of their importance. The Army Engineers were, of course, active in certain areas, but they were not particularly active in Nevada or the interior where the—at least we had a hard time getting them interested.

The highways were very poor and we did some work on that to get communities with

transportation. Electrical power was not so common as it is now; it was just in the towns and a lot of the agents worked on electrical projects to get power lines. I know I did in the Pioche area, to get power to the small communities there. I think that the rest of 'em, every place they went, they—. Telephone lines were practically nonexistent, so we did some work on those things. The communities were very responsive. They recognized the needs were so apparent in the rural areas that they said, well, we want some of those conveniences.

It was quite a change, particularly in the introducing of the new equipment. The horse equipment was going out and the change of horses and new equipment was coming in. I remember the first tractors were just hard-wheeled tractors with big lugs on 'em and they were very, very cumbersome and very hard to manipulate and use. I think that one of the things, when they put the rubber tires on the tractors, they did one of the most wonderful things that—practically like inventing a new wheel. This happened in the '30's, when they started to put the tires on the wheels, made for much more maneuverability and actually faster operations.

In the social end of it, there was no medicare, there was very little insurance. Some of the agents and myself, you looked at a family in case of stress or financial strains, you kind of wondered how they were going to make it, because there was no hospitalization. Of course, medicine was cheap, and it was not near the quality it is now. But you often talked to 'em about insurance for protection of the family and often even—I know I myself discussed making investments outside of the agricultural field. And I was no expert, but I could see that they had all their eggs in one basket, you see, and while it was a pretty sound basket, why, when things went wrong,

sometimes there'd be a financial stress. And you didn't have all the bookkeeping. We even helped in those early days; we helped make out quite a few income tax forms. Now, I have to hire somebody to make my own out! Instead of becoming simplified it's become more complicated [laughs].

Most of the people, if you approached them right (and I think, we did in most cases), they were quite receptive. They were a little reluctant sometimes to go into it because it was something—they'd probably thought about, or probably knew about, or had even heard about it, but you had to approach them rather carefully. Many times, if you could plant the idea that here was something and they suddenly adopted the idea themselves that was very easy; of course, that's one of the oldest tricks in any game, where you can make them the person that you're working with conscious of a certain thing and then let them develop it as their idea. And this is probably the oldest trick that there is in human relations. And to get a job done, and this is why the agents, I think, have to (in many cases) take a back seat when a project or an idea is expressed or tried to work on. You have to take a back seat because you may have originated or pushed the idea yourself, but you're not the one that's taking the action. The other person is, and they must have their credit and they must have—and you don't want to either, because if it's wrong, they're not likely to blame you as severely as [laughs] if they thought about it themselves.

And then also, if you sell 'em too hard, I found that they sometimes didn't quite grasp the idea. It was your idea, and it was your work. So they didn't pay as close attention to the things they were doing to make an idea or a practice successful, as if they themselves had put the effort and the time and some money into it. I know that in many cases

they—oh, if you talked about introducing a new crop, well, they say, “Get me some seed, I’ll try it.” But this is not so good either, because the minute that you furnish seed or something of this kind, then you invariably put it in the worst place, give it the worst care, a lot of ’em, just to see how tough it is—not really give it a change; they don’t really want it to succeed. I know that happened to me on several occasions. I spent money out of my own pocket to get to buy some seed or fertilizer or some thing and they saw to it that it didn’t look as good as what they were using, you see. This happened.

Agricultural Extension agent was probably a forerunner of many of the agencies that have sprung up since. Unfortunately, for a period of time there, they were not given enough funds and men to actually supply this need that was very apparent. They helped point out these needs and then they were filled by other agencies, many of ’em federal and some state; many of ’em came in and filled ’em with federal agents and agencies. When I look back, it probably should have been kept on more or less of a local basis within the state, would have been the better way of doing it, of meeting some of these needs. But, of course, the federal government, of course was interested in the eighty-six percent of the land in Nevada. You can see that the old Land Office was not capable or not equipped to actually handle that.

So they made first the Division of Grazing. When the Taylor Grazing Act came in, of course, they organized a whole new agency to take care of that on the federal lands. This has caused a difference in thinking from the local. You see, they had the old three-mile limit law on water that controlled the range; this was under the state and it was not working too well. It worked, but it didn’t work to a degree that it should have.

And then with the good roads and the mobility of people, apparently it changed again from the livestock use of the ranges. It’s become recreation. Now we recognize water; we had recognized mining and minerals before, but all these other uses had come in, so that it has affected not only our public lands, but also has affected greatly our private lands. The situation in which the owner finds himself and the position in which he is determines—many times—the value, or if he can continue the operation that he has. Some of ’em had to roll out; the situation was not conducive to maintaining the status quo.

Our monetary system changed so greatly. We talked about our ranch being worth so many dollars (and they were very cheap), but now the same ranches have multiplied eight or ten times and twenty times their value. And this is not because they produce so much more, but we have a different value of the dollar. And we’ve changed in our livestock enterprises. Where we used to, as I’ve mentioned before, and I think several chapters back, where we raised a lot of crops we’re down to practically livestock and feed for that livestock, right now. So we’ve dropped out of poultry, and practically out of potatoes and onions and a lot of these things that we used to raise; we just can’t compete with modern production in areas that are better situated than we are.

As for the agents that are in the field now, I think probably they are better trained and I think it looks like they’ve changed over to human resources, actually the more social programs than the physical—introduction of new ideas and so on and so forth. There’s so many more agencies that have men specifically trained in certain fields. They’ve had to cooperate and in many cases, they’ve acted as more or less coordinators between several agencies to bring about changes and/or projects that are necessary.

I went through this process very early, where you had to get the agency interested, you have to get 'em actually into the area. Their representatives are there now, so it becomes somebody's duty to actually manipulate the people or inform the people on what agencies are available for their benefit, to work for their benefit. And so this has changed greatly.

The land owners and urban people probably are less independent than they were before. They're probably relying more now—or some of their individuality has been, they've lost some of it. But that has come about because some of the projects and some of the things they have to do are larger than they themselves can do. And then, they can get better information from agencies that are available to them.

The financing is another thing that, as we use the resources, whether it be land or water, we use the easy ones first, that are easy to develop. And as they become harder and harder, you have to have better techniques, more information, and bigger financing.

With our modern equipment, our modern roads, our electrification of the area, our better communications, we have gained time as individuals, and we can do a lot more than we did. But I wonder if we've lost something in the bargain, where the neighborliness that was apparent in these rural communities, a lot of good visiting that happened when one rancher had to go over and borrow a piece of equipment from the other one, or borrow a horse, and the kind of feeling of being part of the community and helping each other that was necessary to survive in this kind of a situation, has probably been lost. Now, they say, "Why the heck with ya, I'm going to do it myself," and they do it without anybody knowing anything about what is happening. A lot of the kind acts that were performed by rural people have probably been eliminated,

or at least it so appears. I think there's a community spirit or a community identity still, simply because you come from Nye County or you come from—but some of that closeness that was there in case of illness or, you know—they helped each other quite a bit more than they do now. Now they'll say, [not] "Well, I'll come over and help;" now they'll say, "Well, I'll call for the ambulance!" [laughs]. You know what I mean? This is a kind of a situation that has evolved. I think that's a fair example of the change that has occurred there.

My career covered from 1934 to 1967. I think I was very fortunate that I got in that particular time and worked at that particular time. It was a great change in agriculture, machinery was coming in and horses were going out, and insecticides, new seeds, and new crops, and new methods, and fertilizer—big push on the use of fertilizers along that time. And the financing, there had been the Depression, and a lot of the big outfits were wiped out and new ones were starting up so that to me, it was a very exciting time to have worked. Each of us, I presume, we feel that the most important part of the world history depended on what we lived. And as far as we're concerned, that is true. If we look at agriculture before it moved west, agriculture moved west, but it didn't have these ups and downs, the changes, the actual physical changes that made modern agriculture clock the way it has, increased production and all this. So I think I was very fortunate to have lived in that particular time.

We introduced many of the new tools that were available that I mentioned—insecticides and fertilizers and weedicides—which they didn't have before. A lot of studies, a lot of information, a great flood of information from the experiment stations hit the American agriculture at that particular time. And they're

still continuing. There's a revolution, of course, now in cattle feeding, as happened in poultry production. These things had actually started towards the end of my career.

As a good example, the poultry industry that we had here was wiped out because the methods of producing both fryers and eggs changed entirely. We weren't in the grain producing areas where the feed was available and cheap. So they just wiped us out. So I think that this, to me at least, was quite revealing. It kept you on your toes because you could see that these things were happening. And to try and figure out how you could protect your producers, sometimes you worked long, and hard and uselessly because you didn't see the factors that were behind it, and it just happened. There was no way of saving some of those industries; they just had to go.

The new varieties, of course, a lot of 'em were introduced, the hybrids came in. This helped produce, the adequate food that we've had. Just looking back from the prices, that is, from the things that are happening to prices in agricultural food that we have to have now, in comparison to what it was before and what the farmer received, you wonder how he can produce it at that price; you just wonder how he can do it.

And he did it by introduction of new methods and technology. And physical development of new machinery and new equipment were—men could do two and three times the amount of work, actually, on the production end of it. Of course, there was transportation, the movement; there was no closed markets any more. When the agriculture got started in the state, you could see it all over the state.

Where a mining community sprang up, it was far from anywhere. So immediately, the farmers and ranchers around them produced vegetables and dairy products for

the immediate market. They were able to get a high price for it and were able to produce it in under rather difficult conditions. We have an open market now where if you can't reach it by railroad, why, there's an oiled road right close by and it comes in by truck. So the prices can't vary very much from the central market price where it's produced. And this is a blessing, of course, to the consumer, but it makes it almost impossible for the local producers, unless he has soil, climatic, and other conditions which he can compete with the production in the central market.

By the same token, if you can produce the certain commodities, for example, the recent production of alfalfa seed in the state of Nevada—. We have the climatic conditions and the soil which make it possible to produce alfalfa seed. It's relatively a small volume commodity, compared to the price. And it can be moved out, they have the transportation for moving it out.

So these are some of the factors that I mentioned a while ago that are beyond (probably) our means of controlling locally; it's controlled by many, many other factors that are beyond our control.

You mentioned the change in the price structure of the commodities and why they were produced in these outlying areas. Let us take the small dairying, on the small ranches and farms. Milking oh, up to ten or fifteen cows and feeding 'em and taking care of 'em was considered "chores." So generally there was one or two members of the family that did the milking and took care of the milk products. You produced the hay and that was not counted as an expense against the cow and the labor in the morning to milk those cows and separate the milk to make cheese or whatever it was just not considered; this was a part of the chores. And yet it was an income. Actually they couldn't have survived without

that little extra income. They worked all day to produce the hay to feed the cow, but they never considered the cost of milking the cow.

We were talking about the difference in production and how things were done fifty or sixty years ago, as far back as I can remember. I remember that so-called chore, in which not only the head of the family, but the children and the wives were concerned, such as milking cows and separating cream and making cheese and all these chores, that was actually a *job*. It wasn't a very good paying job, but nobody considered it a *job*, it was a *chore*. But this sometimes made the difference between making a success of a small place, of a family farm, and it going down as a business adventure.

And in many of those larger ones, larger farms and ranches, there was always regular hired hands who generally worked during the summer months, wait around for the summer months, in the winter, they did chores for their board and room. Then there was another kind of a group in there, older men that had probably been with the family for quite a while. And they were sixty-five, seventy years old, or and they had had an accident and were handicapped a little bit, or they had bad habits of being pretty good elbow benders, getting on big drunks. The owners tolerated them because they were useful to them as chore men or blacksmiths, or did odd jobs around the farm. They were paid very little, but they were fed, place for them to sleep, and in many cases when they were ill, they were taken to a doctor. There was no laws required a minimum wage or required the operator to pay industrial compensation. So this was actually a home for these people. With our change in society, those people when they could not produce up to the minimum wage or to—the younger men are just told to go up the road; fired, in

other words. And they wind up on welfare, they wind up in old people's homes, a rather sad situation for these people. But there's no way of bringing the two societies or the two eras together, because we have moved into an entirely different society. The laws prevent it. And if we did some of the things, if the owners tried to do some of the things to their workers now, why, the sheriff would be out after them, I guess. So it's changed entirely.

This reflects on our food prices. These products that were produced by these chore men and family labor were a factor in keeping prices low; that is, the production costs low. Another thing that has changed [is] our sanitary laws, There was no law against selling unpasteurized milk. You didn't have to have a milk barn that came up to state standards to sell milk or to use milk from that dairy. But now you can't do that, and the minute you add these extra facilities to bring the product up to the law's standard, you have added an increased cost. One of the things, for example, cooling and refrigeration. Most places, there was no cooling and there was no refrigeration [laughs]. I presume that they were pretty tough to eat and consume those products, but it didn't seem so bad at the time.

Going back to the production of home supplies and food. While Nevada is not good fruit country, pretty near every farm or ranch had a fruit orchard, a berry patch, and this kind of thing. The women of the household, they canned, made jellies and jams, canned meats, vegetables and fruits. Now the rules and regulations say you've got to be afraid of botulism and all those things so that meat canning is practically gone out, I think, as far as in a farm home. You have very little meat curing; it's another art that's gone. And the orchards; fruit is available in the stores and you eat it year 'round; where it was a delicacy, and only came in season, now with

refrigeration, you can buy it. So it isn't held in as high esteem as it was in those days.

Then I'd kind of made up my mind that I was going to retire at about the age of sixty, I'd been thirty-three years in and I'd figured well, it's deep enough. I'd not made any definite plans on what I was going to do beyond when the final date came. I'd made up my mind pretty well that I was going to retire, so it was not a heartbreak problem. I felt that younger men were needed and with more energy; I didn't want to get in the position where I'd seen some of my predecessors that had figured that if they didn't get down to the office, the office wouldn't open or they—. I think they felt they just had to go somewhere, they had to do something, and the office was the only place they had to go to. I didn't feel that way about it. I retired. Except for a few unpleasanties that happened in the personnel and the work was concerned, I felt that I was ready to go, and that I wanted someone else to take the job and do a little better job. I hated to get caught by some little boy or girl coming up and saying, "Grandma (or Grandpa) said you'd be here." I didn't [laughs] want to get caught in that type of situation.

CIVIC AFFAIRS AND COMMUNITY ACTIVITIES

In the general question of the work, of course, it became necessary that I involve myself in some civic activities, semi-political activities. I served on the Washoe County Fair Board when it first came in, representing the Extension Service and the 4-H Club youngsters. And I served a purpose. I don't think it would be proper now for a county agent to serve on these, because the fair has changed in concept and scope, but at that particular time we had the only activity, really, that represented the old-time fair; that is, the livestock, the handicrafts, the clothing, the canned goods, and this kind of thing. And this is why we were on the board. I served on it for three or four years. Finally, I was replaced, of course.

I served on the planning commission; I was really on the commission itself, but I served on sub-committees.

And civil defense. I was civil defense leader during the second World War in Lincoln County. It was a method of generating enthusiasm for the war, I guess. So we had meetings and blackouts, and I don't know why

we ever had 'em . Now, I look back on 'em and who was going to attack Pioche? [Laughing] That's the question.

I served on the Parent Awareness committee. And God bless Mrs. [Tosca Masini] Means; she has devoted much of her life to youngsters and she had some very good ideas. And this is just before the drug culture hit, and she worked very hard and developed a pretty good sketch or outline for creating communications and understanding that parents and youngsters—. Unfortunately, the things were moving so fast that I don't think we even got the stuff that was prepared. I don't think we even got it printed, it was quite a little job to get it all printed, and by the time we got it printed, why, we were in the drug culture and the situation had changed. And this is what happens to many of our committees, that things start out and have an immediate purpose, but factors beyond the committee's control or beyond the view of the committee occur, and it just flattens out.

I have been a member of the Washoe County Conservation Forum. It's actually

Cliff Young's baby; he uses it as kind of a sounding board to feel out how the agencies and people feel. It's generally made up of governmental agencies. The reason I attended was that I was a county agent and I wanted to have an idea of what other agencies were doing. It's a place where they can expound on their programs and get a little view, get a little reporting in the paper, and so on and so forth. This serves a purpose, it's advertising as it were, or public relations, as you might call it. I've helped put on two or three programs on water.

I never was really active in politics, but my wife has been very active. She's devoted many years to it. She started out in Pioche. When we were first married, she belonged to the women's professional group there. Then we moved to Yerington, why, she was on the women's club and she got to advising committee or something to the city council there. Then she became interested in politics, so she went into the Republican party. She helped organize committees there. Then when she came in here, she worked pretty religiously in the various schools, with the PTA's in the various schools in which the youngsters were enrolled. Later she belonged to the mother's club for the Lambda Chi when the youngsters were there. And all this time, she kept an interest in politics, in the Republican party. All these acquaintances that she made in the various groups, of course, helped her in the Republican party work. She's never run for any public office. I only ran once [in 1972], and got beat. That was for the state Board of Education and I didn't organize my campaign very well. I won the primary, but I lost the general, which was all right.

I did one thing. The state Board of Education, there's two representatives from Washoe County, and the area is divided into two voting districts. One of 'em is east—

generally speaking it's east of [US Highway] 395, and the other one's west of 395. It's not exact, but it's in that area. And the voters had to vote in their own area but the candidate could come from either area. So I called that to the attention of some of our legislators and actually it was changed so that now the voters vote for the representative, but he must live within that area. And one of my opponents lived in the west area (and I lived in the east area), and I beat him. But the other opponent that I had lived in the east and she beat me. And it was unfortunate, kind of, because most of my friends lived where they couldn't vote for me.

I belong to the Federal Retired Employees Association and to the Retired Teachers Association. I've never been very active in it. I've never been too active in the University, or even the Alumni Association. I've never been too active in it. I still consult occasionally with my former agricultural workers and sometimes try to get a little help from them, but I've never been too active.

I probably would have liked to have done something like this, like we're doing now, if I'd had some help on it, but I couldn't do the typing and I couldn't put the thing together myself. So I would have been willing to do it, but I just had to have somebody doing the typing. I couldn't do that.

THE "GREEN BELT" IN WASHOE COUNTY

We'll discuss a little about the "green belt" and what it means to the community and to the various people that inhabit the community. First of all, the "green belt" is a rather uncertain term that is used and everybody has kind of their idea of what it should be. If you were a forester, you think of big tall trees, and if you're a gardener, you think of roses and so on and so forth, and if

you're a naturalist, why, you think of wildlife, and on down the line. But actually, the "green belt," as I look at it, is that area near the river on both banks of the river. So the way I feel about it, it should be in public ownership.

First of all, the Truckee River has never been officially declared navigable, but it was navigable. And as a navigable stream federally in 1864, when Nevada became a state, it took over the rights and privileges of the federal government, so that you'd have to consider the Truckee River as a navigable stream. It has never really been put to a case. There's been two or three cases tried on the river concerning land ownership and these things, but never officially declared a navigable stream.

So when I first came into the "green belt" concept, I did that through flood control. And there had been talk, for, I don't know, probably forty years, about a "green belt." The only real stretch of "green belt," that they really had, that everybody can really kind of see, is down on Riverside Drive. The street is away from the river a ways, and then there's a bank. It's seeded with lawn and trees and flowers, and this makes a very beautiful drive. And I think that most people would accept that as a "green belt."

Nobody could really agree on it. Most of the land owners they either—. They had deeds, some of 'em that owned to the middle of the stream, some of 'em to the high water, some to the low water mark. There's no actual, definite line that designates where the private property is and where the river bed is. so the park service and other agencies have drawn up many plans and they include the "green belt," and nothing has ever happened to it except spend money on plans.

So my concept is, again, slightly different. I think that the river is primarily a highway which carries water and therefore the banks

on either side on it are part of the highway and they should be protected from encroachment on the river, from pollution, and the other things that we can do with it, that the public can do with it—use it for parks for recreation of any kind—these are secondary and they can all be incorporated into one general overall program and get the same effects that you have as a "green belt," that you'd think of as a "green belt."

None of the agencies have either the authority or wanted to assume the authority. The state has not wanted to assume the authority to take the Truckee River as a navigable stream or to survey or monument it. And this has been my purpose for the last ten or twelve years. We came pretty close to that when the Army Engineers, from Vista to the eastern limits of Reno, did make a survey and they did establish some division there, not official, but only for flood control purposes. And they did this so that the state would assume the responsibility to keep the Army Engineers out of any lawsuits or anything that would come as a result of their work. So we have that on record. This happened in 1959 and '60.

Since that time, we've been trying to get some way of involving the state and actually getting a survey. Nothing has happened until this year, when finally the state legislature passed a law, an amendment to a couple of laws, that pertain to the Department of Conservation and Natural Resources. This is a fund there that was created in 1959 for planning work. This was extended to include a survey and monumenting of the Truckee River, if it is wanted. The other one was—well, a companion bill passed, but it doesn't particularly concern the Truckee River at this time. Now, what will have to happen there is that Sparks and Reno and Washoe County will have to include that in their budget and

borrow money from the revolving fund and get that surveyed. I think the Washoe County park service will probably head the project up, at least I hope they do. There's going to be quite a few complications there of where it is exactly to establish that line; whether it's high water or low water or in between. But it will establish a line, it will prevent encroachment upon the river, and it will help check the pollution.

Now, we had proposed that they take a strip of a hundred feet on either side of the river and cut—we just took an arbitrary figure; we talked it up as an arbitrary figure and it didn't involve very many areas. This was proposed about seven or eight years ago; I think for \$40- or \$50,000, we could have actually purchased the land at that time. I know that it would have been worth less than \$5,000 an acre; we could have got it then, but now it's gone way up. So there probably will be some arguing on it, but this still should be done.

There are some land owners that will probably donate a certain amount of land along the river that they feel should go into parks, or should belong to the river. We tried getting the county and the planning board and all of 'em interested in actually designating a road along, putting a road along the river, particularly on the north side, some distance from the river. And then all the land from the road to the river, you see, in the "green belt." And if the road was established, then the planning on either side, you see, could tie in with that road; you see that the streets and roads and could tie in. We think it would have been good, but we weren't able to put it over.

[Why, do I think?] Well, finances for one thing. And then there's a lot of public officials don't want to rock the boat too bad, and some that didn't probably fit in right and they misunderstood. I wanted something

like is on Riverside Drive. What I was trying to get at would have served not only as a "green belt," it would serve the parks and it would have served the primary purpose of flood control, you see. They had some diking and it protected the river, and it would have prevented some floods. And it would have given a general elevation of where the floods are. I think the planning on either bank could have been of a better type with that in, but we couldn't put that over.

These plans actually were sentiment probings, were actually done mostly through Vista Water Users. We had some favorable and some unfavorable comments, but mostly it was favorable; eight or ten years ago, it was quite favorable. And it's becoming less favorable as the land prices raise and the value of the land on either side becomes more valuable. They naturally look at it, and they had to part with the land, because there was a scarcity of land in the valley and it's very high priced. And some of that land along the river is choice [for] building.

Now, there's all schemes proposed. One of 'em was, oh, residential, and this kind of thing, but I don't like to see that because you're favoring a certain segment of people. I just let it go at the zoning, let the zoning determine what shall be there, because zoning eventually is what determines it. In some areas, you see, in the lower parts down towards Vista, it's all warehousing. And this, I thought, would fit in very nicely. Or you get in closer to the center of the city, why, you start in with some of the residential and then you start in apartments and then—.

A very good example of what shouldn't be done is the apartments on Jones Street, across from Idlewild Park. They've gone clear up to the river's edge. They own the land, there's no question about it. I presume that they could do it and they own the land and

they got permission to build, and so they were built there. It's an encroachment, actually, on the river (or part of the river). And then it has spoiled the beauty of it for most people. And they used it as a sales gimmick for the apartments here on the river. But it's not. That also has lost some of its value because they're sitting on it and you're too close to the forest to see the trees, actually.

There's certain stretches of the river that is being encroached upon right now. They're dumping rocks and soil and squeezing the river in, which shouldn't be. But they are doing it. I hope that this surveying and monumenting will prevent that. At least if that doesn't, I don't know what will. And then the development can come later.

Now, the other bad feature, when we talk about a "green belt," you're talking about parks and maintenance. It's pathetic, actually, when a stretch of the river is taken and developments are started and then are not completed or kept up. It becomes a hang-out for some of the poorer element, and a lot of people abuse it. They abuse that privilege and they cause a lot of problems with the ownership on either side of the river. And this is the thing that we found mostly, that people didn't object so much to the "green belt," but they objected to the people utilizing the river and then getting on their land and desecrating the river in many ways, throwing beer cans and garbage and that kind of thing. And no policing. It shouldn't be developed unless there's definite plans made for policing. Or the design should be such that it requires a minimum of policing.

You asked me what agency or groups are either for or against it, why this hasn't happened before. It's one of those elusive sort of situations where there are many interests and conflicting interests, so that nobody wants to take on a fight of either doing it or

not doing it. And it's just allowed to ride along and develop in a haphazard way. You can't blame anyone. I talked to a lot of people and they always want to find a scapegoat, but there is no scapegoat; just one of those things, just happens, you can't get anybody interested.

As a good example, when we removed the reefs down at Vista, we organized the Vista Water Users. We went to the county and they couldn't undertake it because first of all, the river's in two or three counties; they had no jurisdiction in the other counties. Second, it would have fallen upon Washoe County to provide all of the easements and the costs that they estimated about \$160,000 and the county felt a little reluctant at that time to put up that much money. We couldn't get the city of Reno or city of Sparks because they only controlled a very small portion of the river. We couldn't get the water conservancy districts because they say, "Well, we don't own any land and we're not in this kind of a—we're just interested in the water flowing, the water that's there." We couldn't get the state because they said, "Well, we don't own the river."

So, here we were. I had to write quite a number of letters—and this was really hard to do—to get 'em to say: will you do it? or won't you do it? Please say one or the other: All that I wanted, actually all that I wanted out of 'em, was a *no* answer, so that then we could go to the state legislature and put the proposition to the state legislature and let them pass a law which made the state responsible for the river. But I could get no agency to say, "yes, we'll do it." I had a very hard time, I had to call 'em on the telephone, some of 'em two or three times: please give me a letter that says, "No, we're not interested."

We thought of extending the Riverside Drive from Booth Street to the underpass, under the railroad under the Second Street underpass. The English Mill ditch at one

time occupied that area, and they had an easement; it wasn't a recorded easement but it was an easement by use. And when that was abandoned, we tried to interest the city and others to actually fill the ditch in and cut a kind of a path up through there and at least make it a walkway. It could have been used for bicycle riding or for just walking, if you didn't want to use it for car purposes. But this was never done and eventually, the land became valuable, and eventually, title was finally established over the right-of-way, and eventually, we have the apartments there which should not have been. They could have been set further back; there was plenty of room further back. But you didn't have to occupy that area ten or twelve feet from the river! It just didn't have to be that close. They probably would have had to be smaller, but at that time, the land was practically worthless. But we ran into such things as water rights in the ditch; some of 'em had one or two inches of water in the ditch. And when we closed the ditch, we actually had to find money to buy them out, to buy their water out; we had two or three occasions that this had to be done. It was a little hard sometimes to scare up that water right, so that they could be closed.

They said, "Well, we own the water right and we're in the ditch and you're not going to give up the ditch unless we get to sell-our water; we're using it."

And I said, "Why can't you use—you're not—." Some of 'em were not using it. They were using out of the city supply.

But they say, "Here's our deed, we have a right to it."

So we had to purchase some of those out. So you run into all kinds of little things like that kind, naturally, that are just very—oh, it'd stop you if you didn't find a way around 'em .

OBSERVATION: COMMUNITY DEVELOPMENT

At the present time, we're having a lot of controversy over the growth of Washoe County and zoning and master planning and uses of water and uses of land. This was already apparent in 1954 when I came here, that the resources were somewhat limited. People talked about leaving the agricultural lands as they were and making use of the mountains and hills around us for human habitation. Most of the people that were talking were aware of what was happening, but their solutions that they gave (for example, using the lands for residential areas, the hill country around) they weren't thinking very smartly because they just didn't have any concept of what finances that it took to use those lands. And that we had to use our better lands that were closer to the facilities, water and other facilities, that are necessary to change from an agricultural community into urban area and to increase our urban area that we have in Washoe Valley.

To me, the whole thing is surprising that the powers that determine a lot of those factors actually did as good as they did. They're being criticized, our public officials are being criticized quite severely, for uncontrolled growth, for misuse of our resources. But they didn't live through the process that this is going on and therefore, I think that their judgement is somewhat colored; it might be accurate, but it's somewhat colored. Because to reach a point where we had developed this as far as we have, you've got to use what resources you have. And this includes the natural resources and the financial resources. And I hear the planning board and all the officials being severely criticized, and I don't feel that way about it at all. I think they did a pretty good job. And actually, I hate to see

some of the development that is going on; it seems unsound, but when you reverse the thing, this is what the people demand. As a good example, the over-development of the Tahoe Basin and overuse, probably, of our recreational facilities in the mountains. But this is part of the growing up, I guess. We'll have to make mistakes and correct 'em later.

In an arid state like the state of Nevada, and in this area here, where you have limited amounts of water, I think that we've always placed too much emphasis on land, rather than on our limited resources, which is water. And our laws and regulations that we formulate today probably won't fit ten years from now. But it's hard to replace 'em and make 'em fit the situation.

We tried to do planning; all agencies and all groups try to do planning. And I think that if we went back to some of the things we talked about, both in the Extension Service and in the other governmental bodies, we just couldn't foresee the effect that denser population had on the community, and the change in our source of wealth, and our income has drastically changed.

MY POST-RETIREMENT CAREER AND ACTIVITIES

Well, after I retired, I did some things that I wanted to do around the house and the yard and did a little visiting and did a little traveling, but not much. I decided then that I'd probably do a little help, and I did go back to the Extension Service and in Lovelock for five months, and I helped them with the livestock shows for awhile, and I did go down and feed cattle, and then I labored for about six months on a special job. Then I also had in between there, I'd thought I probably could fit in with the Federal Land Bank; I did work with the Federal Land Bank for about six or seven months. But that was eight to five also, and night work, some night work and some late work. And it was too much detail for me. It was on the finances and I was not good at it and I just didn't feel that I was doing a job and I wasn't satisfied with myself. So about 1970, I had relatives that were in real estate. They came to me and said, "Well, why don't you take a course in real estate? You have knowledge of ranches and land and water. I think you'd fit in."

So I kind of considered that and said, "Well, it's not too much of an effort so—" So

I did go to Maag's school in real estate. And I wasn't able to take the exam because I was on a trip to Europe when the exam came up, but I took it the following six months later and I managed to pass it and I went down and went to work for the Washoe Realty. You're almost an independent businessman. You have an office there and they pay the expenses, but there's no salary paid and you work strictly on commission.

The real estate school instructions were based mainly on selling houses and property in town—buildings and business. And it gave me a kind of a background, but I've never really followed it too closely—instructions. I just use what knowledge I had or have on land and water, and it's fitted in with the help of my fellow workers. It's fitted in pretty well for me and I think it's helped them. I haven't made great sums of money but I've made a pretty good income per year. Sometimes there's several dry months between deals [laughs]. But with my retirement, it hasn't bothered. And it's something to do, and I'm kind of interested. I think that if I had gone

into this as a young man and really learned the business and finance end of it, and how to put deals together, I can see that in a community such as Reno, there would have been a lot of money to be made. But you have to be young and industrious and sharp, and I kinda don't use all the tools that are available.

Our economic situation has, of course, been changing very rapidly. We have inflation and then we have accretion of property, actually, from the movement of people in an area. And this is particularly true in Washoe County, and it's true all over Nevada, and (I guess) all over the United States. But it's particularly true right here in Washoe County and Reno. Now, this is an agricultural community here, dependent on agriculture quite to some extent—to a large extent fifty or sixty years ago. And it's gradually turned into a trade center and then a tourism center. As more people move in, they have to have more space to live.

The first growth happened in Reno on the fringes. Since the land was purchased and it could go into either homes or subdivisions or commercial use, the land prices immediately started to climb. Now, there's many people who say, "Why can't we leave the agricultural land alone and put these people out on the hills surrounding the rough land, desert land, the surroundings?"

But this isn't the way a city grows or growth takes place; growth takes place where it's most economical. It's got to be financially profitable to the developer. Otherwise, he just doesn't do those things. So what happened to the agricultural land was that they could pay the high prices—over two or three times what it was worth for agriculture—then put in the sewer and the water and the power and put in the streets, and so on and so forth, and develop that much cheaper than they can on the lands surrounding the city and the hills

and the mountains. And they've pretty well kept balance with each other as the good agricultural land rose actually in almost direct proportion, to the where it was inversely proportion, practically, to the demands. And as the desert lands and hill lands were still cheaper but the cost of putting in the facilities were so high that again, they kept falling back, keep falling back on the agricultural land. So there is no way of keeping so-called green belts or open air spaces; it can't hardly be done financially. It just isn't in the cards to do it.

As we watch the area grow right here in Reno, agriculture production in the Truckee Meadows is practically gone. When land is selling for seven and eight thousand, \$10,000 an acre, you can't keep it in agriculture, it just can't be done, because the agricultural value would probably be seven or \$800 an acre—it's ten times—it just has to go for industrial or residential use.

The difficulties of bringing this in a community, especially like Reno here, is we're dependent entirely on the waters of the Truckee River for domestic and industrial use of water. These open valleys that surround here are not very attractive, because first of all, there is no way of getting that water out of there and transferring it out of the basin, which would deprive Pyramid Lake of the drainage—can't be done. And then the costs are prohibitive in many cases. So you have a constant, tremendous pressure on the agricultural lands where there is water.

A NOTE ON MY FAMILY

Talking about marriage, why, my wife and I met, of course in Pioche. We were married on April 7th, 1940, which makes it a little more than thirty years. We lived in, of course, Pioche and we lived in Yerington and finally in Reno. I was fortunate to have three boys. When I was in Yerington, I kind of felt that I wanted 'em to go to the University and when the opportunity opened in Washoe County I thought I should take it. Because I was pretty well assured that I would put 'em through, where if I stayed in Yerington, I couldn't do that.

And they did, all three, finish at the University of Nevada. One of 'em graduated as a business major and one is an engineer, and one is a political scientist. I don't know what the political science means, but it's a catch-all for something or another. The one that graduated from business administration is now selling insurance for Allstate. The one that graduated in civil engineering is working for a large firm; he's stationed right now in Colorado Springs, working on the rebuilding of the Fort, Fort-whatever-it-is in Colorado

Springs. It's a thirty million-dollar job there that he's working on. [The political scientist works with Omega House, a "half-way house" for drug users.]

They've all been healthy and they seem to be pretty good. They seem to be started on a nice work. So it pleases me. I have five grandchildren, which I kind of think are pretty good.

SUMMARY AND CONCLUSION

I thought we'd probably go into a summary here. I don't know how we'll want to conclude this. And the philosophy of life, I don't know if I have one [laughing]. I don't know if we can conclude this, because I can talk on for a long time. But I'll say I've enjoyed it and I kind of look forward. I don't think I have too closed a mind about most things.

Sometimes things look a little hopeless. For example, right now we're undergoing the Watergate fiasco, which is a little bit embarrassing, not only to those involved, but I think it's embarrassing to the entire country. And my philosophy on that one is, I hope they get it over with, so that we can go on with things that are more important than actually finding out who was guilty or who was not guilty for a lot of skullduggery that went on. That's very unfortunate.

Looking at the immediate western Nevada in general, I can see that there's going to be this population explosion; it's going to continue for quite some time. I don't know

when it will end. We don't have any really great natural resources that we can exploit or develop, yet we have a lot of tourism. Climatic conditions must be pretty good because people seem to like it.

My plans for the future, I probably hope to stay in real estate for another year or two. I think when I get pretty close to seventy, why, it's time to close it off, active work anyway.

I've been thinking about actually probably writing a little bit of my family history. I have at least 300 relatives in the community, and probably more. And when I look back particularly on the Minetto family, that my [mother] was a member of, and how they came from peasant stock and very poor from Italy and settled in here and managed to make it, I'm kind of proud of 'em. Most of the family has done pretty well, both financially and culturally, I imagine you might say. I have a lot of relatives that have either finished University or attending the University. And there's engineers and doctors, lawyers, businessmen. Most of

'em have gone into business. But most of 'em have made it. There's some of 'em that haven't done too well. I'd kind of like to tie all that together, just to leave something for the family to look back on, and say, "Well, this is what the start was."

It's kind of an odd situation that we have. We think of individuals as contributing to a community, because they built buildings or they did great physical things, and yet the man that I speak of is Tony Minetto. [He] came here from the old country, he and his wife. I don't [know] if they were married here or in the old country, but anyhow they raised, I think, five children. And I don't think the man ever made more than probably sixty or seventy dollars a month. But they knew how to share. Then he had a little house down on Winter Street. He got husbands for all his nieces, and I don't know, there must have been eight or ten of 'em ; that is, not only my mother's family, but some of his other nieces. They all settled in here and while he didn't do any great things himself, he brought in people. And they settled here. And in a way, they have been part of the community. Some of 'em , as I say, have been very successful and some of 'em have made a lot of money and they've put a stamp on the community. He had no money, I guess he didn't have the ability or what it takes to put an imprint on the community, so he put the imprint on the community by just bringing his relatives in. And I've thought of this as a contribution to the local community. Whether the family's good or bad, he did bring 'em in and he did leave an imprint and he did it in a rather odd way. He didn't leave so many great descendents himself, but he left descendents of his relatives. And so in the long run, he may have had more

of an imprint on the community than the more prominent figures of his day that left no descendents. The buildings they built are gone, and the institutions they established are defunct, and here he is; he left kind of a living legend that has developed. He didn't have anything to do with it after he got started, but it's still going.

ORIGINAL INDEX: FOR REFERENCE ONLY

In order to standardize the design of all UNOHP transcripts for the online database, they have been reformatted, a process that was completed in early 2012. This document may therefore differ in appearance and pagination from earlier printed versions. Rather than compile entirely new indexes for each volume, the UNOHP has made each transcript fully searchable electronically. If a previous version of this volume existed, its original index has been appended to this document for reference only. A link to the entire catalog can be found online at <http://oralhistory.unr.edu/>.

A

Agricultural Adjustment
Administration, 65, 91, 92
Agricultural Stabilization
and Conservation Committees
(ASC), 192, 196, 201, 206,
232, 288
Agriculture, Nevada state
department, 357, 377, 380
Alamo, Nevada, 78, 88
Alamo Power District, 88
Albright, Archie, 259, 281,
366, 418-419
Alfalfa weevil, 115-116,
233-235, 388, 390-394
Annett, Norman, 59
Antelope Valley (California),
171, 172
Army Corps of Engineers,
U. S., 69, 76, 291, 301,
304, 306
Associated Nevada Dairymen,
370-371. *See also* Dairies
Austin, Nevada, 154

B

Barnum, Bruce, 236-237, 326
Basques, 344, 346
Bastian, Cyril, 111-113
Batchelder, Fred, 427-428
Berry, Lena H., 425
Blackler, William R., 58
Boca dam (California), 410
Boerlin, Elwood, 259, 337,
338, 366, 418, 419
Bohmont, Dale W., 406
Boulder Dam. *See* Hoover Dam
Bovett, Florence, 394, 421,
422
Bowman reservoir (southern
Nevada), 70
Bridgeport, California,
170, 172

B

Bristol, Nevada, 78
Brooks, Ernest, 417
Brown, Norman D., 172-173,
206
Buckman, Thomas E., 62, 75,
149, 163, 281, 394, 398,
405-406, 409, 410
Bunker, Ferron W., 429
Buol, Mary Stilwell, 126,
419-420, 421, 422
Bureau of Land Management,
U. S., 76, 118, 348, 351,
355. *See also* Taylor
Grazing Act
Burr, M. J., 23-24

C

Caliente, Nevada, 22, 63,
71, 84, 85, 86-87, 96,
140, 141, 155, 156
Canadians, 169
Capurro, Joe, 4, 5, 8, 10,
14-16, 49
Capurro, Mrs. Joe, 8
Carpenter, Farrington L.,
350
Carson river (Nevada), 166,
195, 208-209, 210
Carson-Truckee Conservancy
District (Nevada), 296
Carson Valley (Nevada),
251, 252
Case baler, 253
Cassidy, "Butch" (George
Leroy Parker), 110
Castles, Carrie, 65
Cathedral Gorge state park
(Nevada), 121
Catholics, 13-15

C

Cattle, raising of, 66-67,
91-94, 97-99, 101-105,
106-107, 108, 165, 235,
236, 258, 283, 311, 371,
373, 378, 380. *See also*
Dairies
Central Pacific Railroad.
See Southern Pacific
Railroad
Charlebois, Frank, 215
Charleston Mountains
(Nevada), 120, 152
Civilian Conservation Corps
(CCC), 69, 71, 74, 120
Clark County, Nevada, 63,
68, 74, 93, 115-116,
159, 277
Cline, Lawton E., 214, 361
Clover Valley Creek (Nevada),
68
Colony ranch (Lyon County),
198, 206
Colorado A and M (Fort
Collins), 135, 323-325
Conely, Clarence, 46
Connell, Virgil, 171
Corn, cultivation of,
111-113
Corn-hog program (AAA),
62-64, 65, 91
Cox, Raymond C., 402
Coyotes, 29-32
Creel, Cecil W., 75, 109,
394, 400, 405, 425
Cremetti, Glen, 327
Crested wheat, cultivation
of, 114-115, 354-355
Crozier, Mr., 86, 88

D

Dairies, 11, 66-67, 106-107,
171-172, 177, 178, 216-222,
283-284, 365-371, 430
Damonte ranch (Lyon County),
245

D

Day, Kirk, 328, 428
Dayton, Nevada, 167, 168,
177
DDT (pesticide), 234, 236,
374, 387-388, 389, 391
Dead Ox Canyon, Nevada, 5
Deer, 145-146
Defense Department, U. S.,
119
Delaval milk separator, 66
Delmue, Albert, 144-145
Delmue dam (Lincoln County),
68, 69, 70, 75
Delmue ranch (Lincoln Coun-
ty), 76, 83-84, 144-145
Democrats, 146-147
Derby, Nevada, 33-35
DeVor, George, 294-295, 298
Diamond brand honey (Nevada),
214, 362
Dimmick, Charlie, 105
"Dirty Curley," 137-138
Dressler Augustus Fredrick
"Fred," 172-173

E

Eagle Valley (southern
Nevada), 69, 72, 73
Echo Canyon Dam (Lincoln
County), 70, 73
Education, Nevada state
board, 449-450
Electrical power development,
77-78, 81, 82, 85-91,
295-296
Elko County, Nevada, 117-118,
406, 416-417, 425
Ely, Nevada, 153, 154,
160-161
Epsilon Sigma Phi, 400

F

Fallon, Nevada, 153-154,
217, 284

F

Farias, Mr., 360
Farm Bureau, Clark County,
116
Farm Bureau, Lincoln
County, 76
Farm Bureau, Lyon County,
288
Farm Bureau, Nevada, 118,
119, 350, 394-399
Farm Bureau, Washoe County,
287-288, 289
Farm and Home Administration,
123
Farm labor, recruitment,
181-186, 246-247
Farm Service Company
(Yerington), 237-238,
243-244, 389
Federal Land Bank, 123, 178
Fellnagle, Julia, 5-6
Fernley, Nevada, 29, 174-177
Fernley school (Fernley,
Nevada), 27-28, 29, 48-49
Ferretto, May Ceresola, 13
Ferretto family, 3
Fish and Game, Nevada
department, 205
Flood control. *See* Irrigation
and Water development
Food preparation and preserva-
tion, 126, 375-376, 421.
See also Home Agents
Ford car, 26-27
Forest Service, U. S., 120
4-H Clubs, 64-65, 120, 122,
149-161, 238, 255-280, 288,
323, 324, 329-341, 396,
398-399, 447
Fulstone, Fred, 171, 206
Future Farmers of America
(FFA), 259, 337

G

Gardella, Guiseppe "Joe,"
1-5, 6, 7, 8, 9, 10, 11,
12, 14, 15, 19, 31-32,
37-39, 41

G

Gardella, Hazel, 161, 163,
449
Gardella, Kent, 328
Gardella, Maria Minetto,
1, 8-10, 11, 13, 49-50
Gardella, Mike, 4, 5, 7, 10
Gardella, Mrs. Mike, 7
Gardnerville, Nevada, 217,
284
Gear, Mr., 110-111
Genoa, Italy, 1, 9
Georgetta, Clel, 345
Geyser ranch (Lincoln
County), 114, 117, 355
Gillette, Helen, 425, 426
Glendale (Clark County),
Nevada, 67
Grasshoppers, 117
"Green belt" (Truckee
river), 450-459
Griffin, Margaret, 426-427
Griswold store, Wadsworth,
Nevada, 7

H

Hammond family (Lincoln
County), 134
Hansen, Andrew "Andy," 371
Hayes, M. Gertrude, 287,
330, 424, 425, 426
Health Department, Nevada
state, 220-221, 356-357
Hensen, Lee, 430-431
Hiko, Nevada, 65
Hogan, Dr. H. H., 3
Hollinger family (Lincoln
County), 132-134
Home agents, Agricultural
Extension, 122, 126,
127-129, 319, 419-427
Hoover Dam (Nevada), 77,
152
Horsemen's Association,
Washoe County, 321
Hughes, E. H., 273
Hunter, Webster B., 221
Hutchinson, Claude B., 197

I

Indians, 22-23, 25, 39,
41-48, 205, 296, 307-316.
See also Pyramid Lake
Indian reservation;
Walker River Indian
reservation
Indian Service, U. S.,
201-202, 203, 205, 310,
311, 315
Irrigation ditches,
298-300, 458-459
Irrigation and water
development, 80-81,
82-83, 87, 166-167, 168,
169-170, 190-211, 282,
288-307, 411. *See also*
Various rivers; Water
Facilities Program
Isola, Louis, 372-373
Italians, 3, 12-13, 18, 25,
167, 168, 172
Italy, 1, 7, 8, 9, 11, 12,
14

J

Japanese, 315
"Joe Overalls" (Indian),
43-44
John Deere baler, 253
Johnston, Mason A., 28
Justice, U. S. Department,
220, 370-371

K

Kershaw-Ryan state park
(Nevada), 121
Kleppe, Arthur W., 301
Kleppe, Ernest, 297
Knudsen, K. O., 22-23, 25
Kohler, Mamie H., 18-19,
20, 21, 24

L

Las Vegas, Nevada, 22,
64-65, 74, 356, 357

L

Las Vegas Wash (Nevada),
74-75
Lee, Henry, 64
Lee, Keith, 51
Lehenbauer, Phillip, 52
Lincoln County, Nevada,
63-162, 163, 164,
173-174, 178, 221, 277,
288, 389-390
Lincoln County Power
District, 85
Linscott, George, 200, 203
Little League, 321
Livestock shows, 258-261,
271, 337-338, 341. *See
also* 4-H Clubs
Louver, Scotty, 35
Lovelock, Nevada, 428
Lyon County, Nevada,
163-280, 281, 288, 376,
380, 384-388, 389, 390,
411
Lytle family (Lincoln
County), 132-134

Mc

McCarran, Patrick A., 75,
76, 297
McCarthy, Marjorie, 49
McCulloch, Frank W., 29

M

Mahone, Clarence, 46
Malone, George W. "Molly,"
68-69, 297
Maloney, Paul, 428-429
Martin, Jo G., 148
Martis Creek reservoir
(California), 296
Mason Valley (Nevada), 168,
172, 205, 363
Mastroianni, Silvo "Doc,"
221
Mathews Canyon dam (Lincoln
County), 68, 70, 75

M

Meadow Valley Wash (Nevada),
67-68, 70-71, 79, 83-84,
109
Means, Tosca Masini, 448
Menke, Mark, 416-417
Mexicans, 181-182, 185-186
Mildren, Mr., 324
Milk production. *See*
Dairies
Milk Commission, Nevada
state, 369. *See also*
Dairies
Miller, Thomas W., 120-121
Miller and Lux livestock
company, 170-171
Minden, Nevada, 217
Mineral County, Nevada,
200, 205
Minetto, Antonio "Tony,"
8, 11, 469-470
Minetto family, 8, 9, 11
Mink, 32
Moapa, Nevada, 64, 83, 95
Moapa Valley (Nevada),
67, 70, 382
Morgan, Marie, 330
Mormon crickets, 117-118
Mormons (Latter Day Saints),
149, 157, 344, 375
Muddy river (Nevada), 68,
70, 84

N

National Association of
County Agricultural
Agents, 399, 400, 402
Neeley, W. J., 29
Nellis Air Force Base
(Clark County), 119
Nevada Extension Agents
Association, 399-400,
401-402
Nevada Hotel (Ely), 160
Nevada Packing Company
(Reno), 285

N

Nevada State Fair, 316, 417
Nevada Turkey Association,
358-361
Newlands Project, 174, 177,
207-211, 295, 298
Nirone, Italy, 9
Nixon, Nevada, 43, 307.
See also Pyramid Lake
Indian reservation
Norbest Turkey Growers
Association, 212-214,
358, 360, 361
Norcross, C. A., 293-294

O

Office of Price Administra-
tion, 180-181
"Old Rosie" (Indian), 42-43
Olinghouse, Elias, 6
Olinghouse, Ralph, 94
Olinghouse, Nevada, 6, 10,
17
Oxborrow, Chester, 142-144

P

Pahranagat Valley (Nevada),
64, 65, 74, 78, 110-113,
151
Paiute Indians, 1, 210.
See also Pyramid Lake
Indian reservation
Panaca, Nevada, 64, 71, 78,
84, 85
Parent Awareness Committee
(Washoe County), 448
Peckham, James, 417
People's Packing Plant
(Lyon County), 372-373
Pine Canyon dam (Lincoln
County), 68, 70, 75
Pioche, Nevada, 63, 65, 77,
85, 137-138, 140, 155
Plymouth ranch (Lyon County),
172, 206

P

Portugese, 171-172
 Potato culture, 165, 168,
 222, 223, 227-228,
 230-232, 238-243, 244,
 393
 Poultry, 212-214, 285,
 358-362, 410
 Production Credit Associa-
 tion, 123, 178
 Prohibition, 35-39, 40-41,
 58
 Prosser reservoir (Calif-
 ornia), 296
 Prostitution, 140
 Public health nurses,
 127, 128
 Pursel, John H., 257, 331,
 332, 340
 Pyramid Lake (Nevada),
 209, 211, 312, 313
 Pyramid Lake Indian res-
 ervation, 1, 5, 10, 208,
 304-305, 307-309, 312,
 315. *See also* Wadsworth,
 Nevada
 Pyramid Lake cutthroat
 trout, 17

R

Rabies epidemic, 1917, 30-31
 Rainbow Canyon (Lincoln
 County), 70
 "Rawhide Henry" (Indian),
 43-45
 Recanzone, Ed, 430
 Reed, Albert J., 431-432
 Reed, Edward C., 289,
 409-410, 417, 418
 Reed, Edward C., Jr., 329
 Reid, Walter (California
 engineer), 197-198
 Reid, Walter (Nevada
 engineer), 196
 Reno, Nevada, 2, 4, 5, 9,
 13, 216, 281, 289, 298,
 302, 305-306, 465. *See*
 also Washoe County

R

Reno airport (Reno, Nevada),
 292-293, 300, 303-304
 Republicans, 146-147, 317,
 449
 Riegelhuth, Katharine, 53
 Rose Valley (Nevada), 69,
 72, 73
 Ross, "Doctor," 273
 Ross pet food company, 273
 Rowntree, Herbert E., 360
 Rural Electrification Ad-
 ministration, U. S. (REA),
 85, 88
 Rye Patch reservoir (Nevada),
 431-432

S

Sagehen, 144-145
 Sanders, Albert, 112
 Sanford, Harold "Pat,"
 235-236
 San Francisco, California,
 158, 258, 259
 Santa Margarita, Italy, 9
 Saroni, Joe, 327
 Saroni, Louis, 205-206
 Schulz, Otto, 222, 230,
 411-412, 427, 430
 Schurz, Nevada, 200-205
 Scott, Verner E., 52, 63
 Scrugham, James G., 75, 76,
 297
 Senter, George M., 63
 Shaffer, Mr., 35-37
 Shaw, Jimmy, 42
 Sheep, raising of, 94-96,
 165, 258-259, 262, 283,
 342-347, 349
 Shell Oil Company, 240,
 241, 243
 Sierra Pacific Power Com-
 pany, 292, 294-295
 Smith, W. R. (DVM), 139
 Smith Valley (Nevada), 59,
 168-169, 172, 198,
 205-207, 223, 230, 363

S

Snyder, Ed H., 77
 Snyder, Eddie, 258
 Soil Conservation Dis-
 tricts, 76, 289
 Soil Conservation Ser-
 vice, U. S., 68-69, 70,
 74, 76, 78, 83, 109, 192,
 194, 195, 288
 Southern Nevada Meat and
 Provision Company, 357-358
 Southern Pacific Railroad,
 4, 10
 Sparks, Nevada, 4, 10, 13,
 14, 289
 Spring Valley (Nevada), 69
 Stampede reservoir (Cali-
 fornia), 296
 Steamboat Creek (Nevada),
 2, 291, 292
 Stewart, Robert E., 52
 Stodieck, Wilbur, 430
 Sturla, Olivin, 49, 56-57
 Sullivan-Kelly ditch (Washoe
 County), 299
 Swine, raising of, 138-139,
 214-216, 272-273, 284-285

T

Tahoe, Lake, 153, 157-158
 Taylor Grazing Act (1934),
 342, 343, 345, 348-353
 Teglia, Roger, 299
 Tempiute, Nevada, 78
 Thiriot, George W., 94, 95
 Thisbe, Nevada, 302
 Thomas, Helen Marye, 11
 Thornton, Clarence J.,
 417-418
 Topaz, California, 170
 Townsend, Claude Raymond
 "Mud," 407-409, 411
 Tremune, Helen, 425
 Trevitt, Daniel H., 59
 Truckee river, 208-209, 210,
 293-299, 301-309, 312-313,
 450-459

T

2-4-D (herbicide), 376,
 378, 379, 383, 384-388
 2-4-5-T (herbicide), 379
 Tyson, William S., 370

U

Ulba, Italy, 9
 Union Pacific railroad,
 69, 70, 75, 96
U. S. vs. Orr Ditch Company,
 208-209
 University of Nevada (Reno),
 49, 50-61, 291, 292, 317
 Ursine, Nevada, 132-134

V

Verdi, Nevada, 3, 305, 306
 Virginia City, Nevada, 11,
 18, 165-166
 Virgin Valley (Nevada),
 64, 382
 Vista, Nevada, 293, 302
 Vista Water Users Associa-
 tion (Washoe County),
 289-293, 301, 455

W

Wabuska, Nevada, 191,
 194-199, 215
 Wadsworth, Frank E., 148
 Wadsworth, Nevada, 1, 4, 5,
 6, 7, 8, 10, 13, 14, 17,
 18, 22, 28, 46. *See also*
 Wadsworth school
 Wadsworth school, 17-26, 27
 Walker Lake (Nevada),
 200-201
 Walker river (Nevada), 165,
 194
 Walker River Indian Reserva-
 tion. *See* Schurz
 Walker River Irrigation Dis-
 trict (Nevada), 170,
 195-197

W

Warren, Billy, 101-102,
133-134
Washoe Conservancy Dis-
trict, 410
Washoe County, Nevada,
136, 164, 167, 224,
281-341, 389, 410,
450-459
Washoe County Conserva-
tion Forum, 448
Washoe County Fair, 278,
417, 447
Washoe Project (Truckee
River), 294, 295-299,
301
Washoe Realty (Reno),
463-465
Washoe Valley (Nevada),
2-3
Water. *See* Irrigation
Water Facilities Program
(U. S), 78-81, 83
Western Nevada Dairymen's
Association, 219, 366.
See also Dairies
White, Wallace W., 220
Willis, Barbara, 161
Willis, Loyal, 161
Willis, Noel, 384-385
Wilson, Frederick W.,
51, 52
Wilson, James O., 94,
95-96
Wilson, Joe, 406-407
Winnemucca, Nevada, 428
Winnemucca Lake (Nevada),
209
Wittwer, John H., 63, 64,
67, 68, 74-75, 149, 152,
157, 159, 277, 412-416

Y

Yeager, J. D., 171, 394
Yerington, Nevada, 171,
215, 217, 284, 326-328.
See also Lyon County

Y

Yerington Creamery, 327
Yerington fire district,
326-328
York, Charles, 276, 427
Young, Clifton S., 448

Z

Zimmerman, Hazel, 426